



# **Biennial Report on Information Technology**

**BHARAT SHYAM**  
**OFFICE OF THE CHIEF INFORMATION OFFICER**  
**January 2013**

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STATE OF WASHINGTON

## OFFICE OF THE CHIEF INFORMATION OFFICER

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January 14, 2013

I am proud to present the first Biennial Report on IT from the newly created Office of the Chief Information Officer. The overarching theme of the report is transparency and the sharing of an open, candid communication between state leadership on IT and the agencies' leadership about how they use IT and how it might be improved to deliver critical public services.

To accomplish this level of openness and transparency, this document may be unlike most state publications in that it reflects the conversations I conducted at the end of my first year as the State's CIO. It covers the IT leadership's vision for IT in the state, its many challenges and an assessment of state agency accomplishments and opportunities.

As an IT professional whose career has been exclusively in the private sector, the report also reveals my learned appreciation of the talents and commitment of workers and managers in providing services within a very difficult and complex environment. I'd like to particularly thank Governor Gregoire, OFM Director Stan Marshburn, Chief of Staff Marty Loesch and Representative Reuven Carlyle for their guidance and support. My private sector experience did not prepare me to understand the immense challenges faced by public agency IT providers. It is testimony to their hard work, dedication and creativity — done every day — that they have accomplished so much in meeting the needs of their agencies and the people they serve.

To that end, this report makes many observations, assertions and suggestions to help improve the way IT is delivered at the agency level and how IT is funded and structured at the highest policy levels. My hope is that the document does a good job laying out the issues and captures the conversations that have been had to date and most importantly, provides a catalyst for continued improvement.

Respectfully,

/s/

**Bharat Shyam**

Chief Information Officer

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# INTRODUCTION

## TECHNOLOGY PLAYS A NEW ROLE IN SETTING PUBLIC POLICY

While Washington state government is undergoing a complete restructuring of the way it provides technology services, society is experiencing a global [r]evolution in the role technology plays in society, relationships and organizations. Worldwide, emerging technologies are fundamentally changing industries and organizations. Embracing these opportunities afforded by these increasingly rapid rates of change will require not only an upfront investment in dollars but also investment in changing business processes, worker roles, business partner relationships and often the management and stakeholder culture.

Like many other governments across the world, Washington needs to take advantage of a new surge in technological innovation that, when adopted, will improve efficiency and achieve new levels of customer service. The coming together of social, mobile, cloud and “Big Data” technologies will open the door to transforming the state’s lines of business, increasing worker productivity and creating new avenues for accomplishing agencies’ missions.

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**State IT Spending: \$937 million**  
**IT FTEs: 4,626 FTEs**

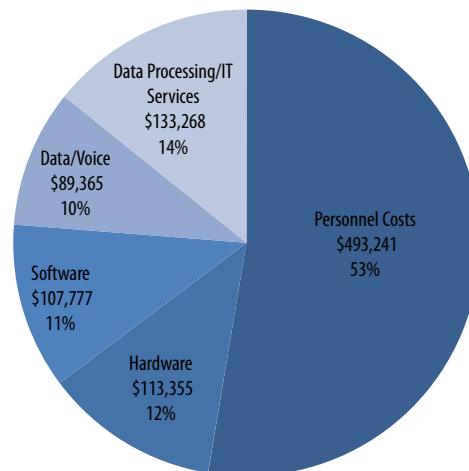
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There is an emerging awareness across organizations of all types that the role of information technology is being profoundly redefined. Organizations live or die based on how effective they are at harnessing technology to reach their goals. According to David Willis, vice president at Gartner, technology has become so pervasive, so intertwined with what organizations deliver to customers, that we need to define a new role for IT that recognizes its significance. He advances the idea that the IT leadership role should be present where, “... the enterprise meets the customer, where the revenue is generated and the mission accomplished... That’s a long way from running back office IT, and it’s full of opportunity.”

While the opportunities for government are no different than the private sector, the challenges are greater in the public sector. Some of the opportunities that Washington must embrace as part of this change include:

- **Defining technology as an integral part of the core mission.** Technology is as fundamental to the production of services as FTEs, facilities and machinery and not just as a back office support function or add-on service channel. Agencies such as Department of Transportation, Department of Health, Department of Revenue and Employment Security are great examples of how

**State of Washington**  
IT Spending – Dollars in Millions



Source: 2012 IT Portfolio Data (submitted by agencies)  
\*includes all higher education except for Western Washington University

leadership can and should embrace the management of technology as core to their business. These agencies have moved away from thinking about technology as support for the delivery of services and products, to thinking about technology as being an integral component of the service or product.

- **Re-envisioning the role of technology.** We encourage agencies to propose bold changes to redefine services and support legislative changes where necessary to enable better use of technology. We need to go beyond automating what we already do today and become more open to how technology can allow us to reshape how we achieve our mission through new paradigms of services and products.
- **Innovating by making smaller investments in emerging technologies.** As a state we need to encourage small bets that keep our technologies current and our workers' skills fresh and relevant. Fear of failure leads to failure to try, and that is costly in today's fast-changing world. We also need a funding mechanism to enable experimentation with promising technologies. A major difference between the public and private sector is the degree to which failure is tolerated as a necessary part of adopting new technology. In the fishbowl of government, any failure carries a cost and stigma that discourage experimentation and learning. It is often highlighted and pilloried by the media and watchdog groups as wasteful government spending and a poor use of taxpayer dollars. There is a disconnect between the speed of change in technology and state processes for procurement, decision making and budgeting — processes often put in place with good intentions to provide accountability and transparency. This results in state IT policy becoming out of touch with current technology. Limiting technology investments only to the “sure-fire” proven technology of today assures obsolescence and missed savings opportunities. It is not uncommon in state government to very slowly approve a large amount of money for a specific technology. We should be doing just the opposite — investing in a large number of low-dollar experiments and then doubling down on the experiments that work.
- **Managing value instead of cost.** IT is now as essential to service delivery as front-line employees. We need to reform budgeting and management for technology investments to better reflect how important they are in delivering government services. Treating IT as a commodity independent of its business value can lead to bad decisions. An example is treating IT spending as an administrative overhead expense that can be reduced through across-the-board cuts without programmatic impact. IT budgeting must be transparent and accountable and constantly seeking ways to become more efficient through better operations, better planning, improving the skills of IT workers, more nimble adoption of new technology, and smarter contracting and purchasing.
- **Modernizing core systems.** All large organizations both public and private face a very difficult problem in dealing with outdated legacy IT investments. The “curse of COBOL” is that many times the applications actually run without problems doing what they were designed to do, but the business rules embodied in the programming are complex and critical knowledge left when the original programmers moved on or retired. Further, the business rules from the 1980s are not necessarily the right ones to drive productivity and good customer service today. Many of these solutions were developed before the popularization of consumer PCs, broadband internet, smartphones, WiFi, tablets and 4G.

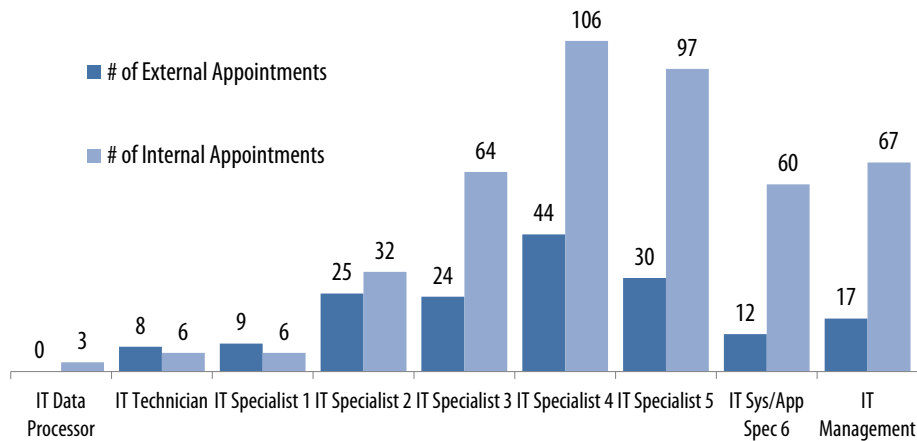
Making a business case to engage in the task of replacing legacy applications must focus on delivering value to the state of Washington. We need new approaches to funding the necessary moves away from old systems, particularly for large systems. The goal should always be to have short duration milestones that deliver measurable operational or end-user improvements. Legacy replacement cannot be an end in itself. It is important that there are substantial enhancements delivered, and in stages, as a direct effect of replacing that legacy technology.

**People are our most important IT resource.** However, Washington state government has a set of major structural issues that make it hard to attract and retain the best and brightest IT professionals. These structural issues are:

- **Provide competitive compensation:** Compensation and work environment are major issues. Salaries have remained frozen while those for industry peers continue to rise. The state is challenged to present a compelling value proposition to prospective technology candidates relative to other competitors in the region such as Costco, Alaska Airlines, Boeing, Microsoft, Amazon, and others. The usual differentiators such as job security, good benefits, and work/life balance often claimed by state government no longer exist. Competition for qualified IT professionals is fierce and drives competitive compensation, benefit, and work/life balance packages for these positions. Telecommuting, flexible work schedules, etc. are the norm in private industry.
- **Create an inviting culture for the next generation of workers:** The next generation of workers has different expectations with respect to work environment and technology — and government simply has not kept up with those expectations. Many workers often expect to stay on a given project until it reaches a natural conclusion and then move on to something new. This is not typical of how most state agencies structure IT jobs. There is a need for state IT managers and state personnel practices to come to terms with expectations of a new generation of IT employees if we are to gain the benefit of fresh ideas of the “digital native users.” They have grown up in an age which expects ubiquitous WiFi, using personal devices at work, social media as the method of communication, and a personal life that blends with the work life. The work environment in state government may feel like it is very old fashioned for these new workers.
- **Create a nimble workforce:** The OCIO should work closely with the Governor’s Labor Relations team and the state’s labor leaders to design a more creative environment for technology workers. We need job descriptions for IT workers that have the expectation for employees to be continuously growing and changing their skills to meet the changes in the technology field they work. In turn, management must commit to the flexibility, opportunity to progress and investment to allow employees to learn and use new skills without necessarily having to enter management ranks.
- **Re-evaluate the way we classify technology workers:** The state uses one primary classification for the IT workforce — the IT Specialist series. This series is the primary series available for agencies to classify their IT workforce in six levels across the multiple disciplines of IT. However, this series is not used consistently across the state. Due to employee recruitment and retention pressures, agencies sometimes classify to higher levels to attract or retain talent rather than classifying by the type of work, level of responsibility, and skills needed. In addition, many agencies have applied the IT Specialist series to other positions not performing true technology functions. Again, this presents an opportunity for the OCIO to collaborate with the state’s Labor Relations Office to refocus technology classifications to better reflect the state’s current and future IT workforce.



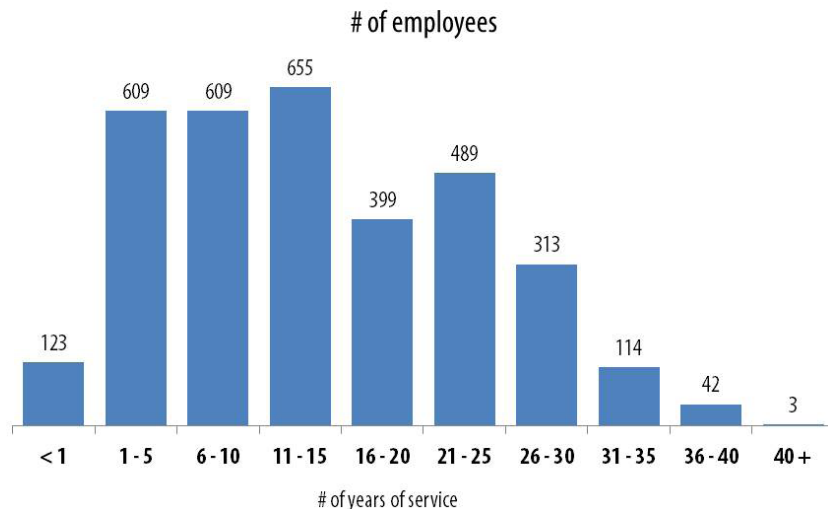
## Majority of IT Appointments are at the Senior/Management Levels



Source: Human Resource Management System, July 2012

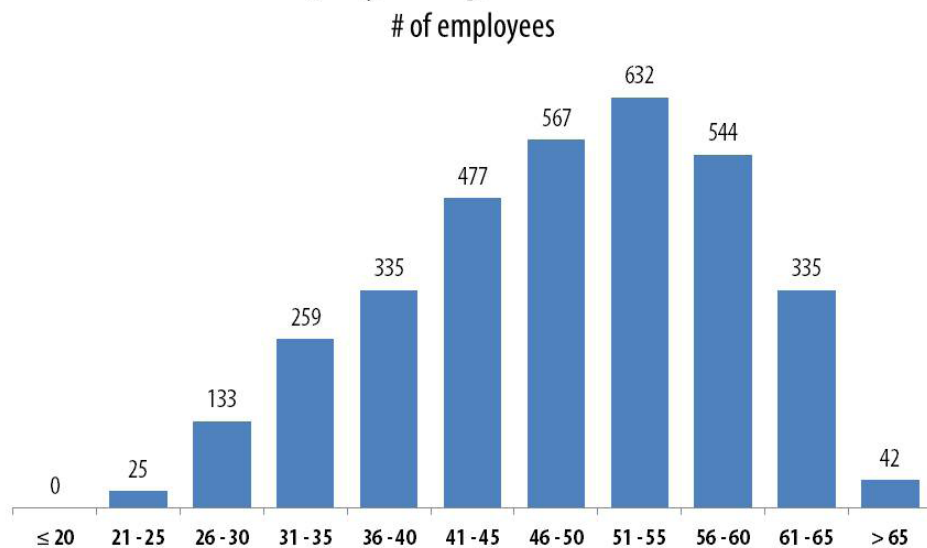
- Succession planning for an aging workforce:** About half of the IT workforce is 50 years of age or older; and, of those workers over 50, half have 20 or more years of state service. We expect to see this cohort of employees begin to move into retirement. We need to be working now to find ways of attracting younger technology workers to state service. Although this is common across many job classes in the state, the risk for the IT class is exacerbated when combined with the other structural issues.

## State of Washington IT Years of Service Distribution



Source: Human Resource Management System, March 2012

## State of Washington IT Employee Age Distribution



Source: Human Resource Management System, March 2012

- Reduce risks associated with a reduced workforce:** Many agencies have reduced staffing to only one person deep per system or area, often in response to budget reductions. In fact, this was discovered to be a universal condition for all agencies and a significant concern for agency CIOs. Under all program activities lies technology that operates, manages, reports, provides access, and ultimately delivers the service. Behind that technology, there is often one person running it. To make matters worse, the technology is usually old, custom built, and complex through years of cobbled together efforts to respond to a plethora of rushed requests. This condition creates unacceptable risk for the state, essentially leaving the ongoing operations of an agency or program dependent on a single person. The expertise to back up that one individual cannot be bought, it has to be grown.
- Increase investments in professional development:** Professional development is foundational to enabling the programs to become more efficient, effective, and responsive to the citizens and businesses that rely on the state for service. Unfortunately, professional development budgets have been cut to sustain programs, and the lack of professional development is the primary driver in technology employee churn, according to existing HR data. The technology industry is still in its infancy and experiences a phenomenal rate of change. Whatever training a technology professional receives quickly depreciates. In addition, the breadth of change can be huge. Training for a technology professional isn't a "nice to have"; it is required for survival. Training and professional development for technologists are essential to the performance of their work.

## IMPLEMENTING WASHINGTON'S CENTRAL SERVICES MODEL

One year ago, Washington embarked on a restructuring of centralized state services, including the state's technology environment. We are really just starting to implement Washington's consolidated services model. As the state's CIO, I am anxious for this shared vision to be realized, and am impatient with the pace of change and adoption of the approach I have seen. I believe this work can, and should, occur more quickly. But with this biennial report, it is important to acknowledge the work that has been accomplished in the past year, centrally and at the individual agency level amid significant change. And it is perhaps even more important to lay out a roadmap for the work still ahead. The central agencies — the Department of Enterprise Services, and Consolidated Technology Services — and individual state agencies will be confronted with a wide array of critical decisions in the months and years ahead. The choices we make, collectively, will determine the ultimate success of this restructured service model. The report that follows will highlight some of the most critical pivot points and recommends choices that, as CIO, I believe will position the state's technology environment to become highly efficient, cost-effective and customer-centric.

Many states and local governments have experimented with or adopted various kinds of consolidated IT services models in pursuit of efficiency believed available through economies of scale. On one end of the spectrum, some states have merged all agencies' IT staff into a single state agency with minimal contracting out of services. On the other end of the spectrum, some states have completely privatized their technology services, contracting that work out to a single vendor. The results of these efforts have been mixed. In some cases the efforts were deemed failures both in terms of meeting agencies' needs and reducing costs. Likewise some states have had successes in some areas of IT services but not in others.

In Washington we have adopted a hybrid approach. We have a centralized IT team that consolidates the delivery of all **infrastructure** services including network, storage, server hosting, data center services, security, authentication, email, conferencing and telecommunication services, collaboration services, desktop services, office worker productivity solutions (e.g., Sharepoint, Word, Excel, etc.), low-level hosting, data warehousing and database services, and cloud and SaaS (Software-as-a-Service) brokerage services.

In our hybrid approach, all **applications** should be owned by the agency IT teams or (in the case of enterprise applications such as finance, payroll, e-procurement, document management, by an enterprise application provider) for the foreseeable future. Today, many of the application services listed above that ought to be available from a centralized provider are not and so take up a considerable amount of the time and effort of agency IT teams. Most of these services are not agency-specific, but since the necessary features and functionalities are not available at the enterprise level, agencies have developed extensive shadow system applications in order to create the functionality needed to meet their missions. Until actual performance, capabilities, cost and confidence improves in centrally provided services, agencies such as the Department of Transportation, Labor and Industries, Revenue, etc., will not trust anyone but their own IT teams to meet their needs.

Our vision is that agency IT should focus on mission-related applications and not be caught between their dedication to their mission and their lack of confidence in a central service provider, which requires them to spend a considerable amount of their energy and focus and IT spending on running and maintaining these core services. Our current combination of the Department of Enterprise Services (DES), Consolidated Technology Services (CTS), and agency-provided IT should be nimble, cheap and easy to use — like what

would be experienced by a small startup in Seattle with SaaS administrative services and a datacenter in a cloud platform like AWS.

## **CONSOLIDATED TECHNOLOGY SERVICES — PROVIDING MARKET-DRIVEN TECHNOLOGY INFRASTRUCTURE**

A main focus of CTS is improving responsiveness and reducing costs for agency infrastructure services. Things are getting better, albeit somewhat slower than what OCIO would like. Ultimately, the price and performance equation is the bottom line for agencies, and CTS needs to create a catalog of IT services that make it an easy choice for agencies to voluntarily use.

In this model, CTS would be a provider of IT infrastructure services for agencies. The benefits of central administration and economies of scale in the hands of a competent and responsive service provider should outweigh the flexibility coming from an agency providing its own infrastructure. For example, there is no reason why an organization of WSDOT's size and sophistication should be required to purchase server services from CTS instead of using the economy of scale and flexibility that come from using Amazon server services to handle the occasional "burst" of internet traffic that occurs during snowstorms (see WSDOT Highlight). However, it is the expectation that over time CTS will become such an efficient and trusted partner in service delivery that WSDOT, DOR, DSHS, LNI and other such large agencies will want to voluntarily hand off large pieces of their infrastructure to CTS. These decisions should be "market driven" based on the effectiveness, customer satisfaction and efficiency delivered by CTS rather than a top-down mandate.

Alternatively, there are many agencies (usually small or mid-sized) that would benefit greatly by turning over their IT infrastructure delivery to CTS right away — if the price and service level are competitive. CTS has an opportunity to create greater economies of scale through shared services and needs to offer agencies the right products at the right cost. The transformation of CTS' service offerings to competitive products is progressing and should be greatly assisted by the Governor's Lean initiative and the OCIO's Technology Business Management initiative.

CTS's recent success in providing shared email services statewide is a good example of a project in which economies of scale and central management provide benefits difficult to achieve on an agency-by-agency basis. Central management assures that agencies can easily and securely send emails and identify other state employees across agencies using a central email directory. Further, it positions the state to use other network communication services such as video, voice and desktop sharing/conferencing and "chat" capabilities among state employees. Centralized email archiving is a benefit that most agencies have grappled with and that CTS now offers "out of the box". What is more, it is offering these services at a price that is lower than most other enterprises, according to an analysis by Gartner.

It is important to note that CTS's role as a good value provider of IT services does not always require it to produce those services directly. Washington's central IT agencies have long had an important role as a procurer of IT services from the private sector and integrating them with state-produced services.

The IT market is increasing the pace of technological and competitive opportunities and it is incumbent upon CTS to stay up-to-date on those changes and take advantage of them when it makes sense. It is expected that CTS continuously review its service solution mix on an objective, value-oriented, basis. The email service noted above is a recent example. The OCIO, CTS and a group of interested state agencies

teamed up to evaluate how the current CTS email offering compared to Microsoft's cloud email service. After a rigorous capability and cost-benefit analysis it was determined that CTS's current email service (combined with expected reductions in CTS storage costs) provides a better value than Microsoft's Office 365 most current offering of email. Further, the archiving and email discovery feature set was not as rich as the feature set of our current archiving solution.

## DEPARTMENT OF ENTERPRISE SERVICES — PROVIDING SHARED SERVICES AND ENTERPRISE APPLICATIONS

While CTS is the provider of enterprise (consolidated) or shared service **infrastructure**, DES is the provider of enterprise and shared services **applications**. DES plays an essential role in providing IT applications and data services where consistency, interoperability and an enterprise-wide roll-up of data are required. There are significant advantages to having administrative systems such as human resources reporting, payroll, performance reviews for employees, talent management, financial, budgeting and accounting run on enterprise, rather than agency, systems.

One of DES's most significant challenges in the months and years to come will be the modernization of the state's administrative and financial systems. The state's existing administrative and financial systems are built on aging technology that is inflexible and is difficult (and expensive) to maintain or modify to meet today's needs. Upgrading these will increase employee productivity. (The State Auditor has made similar observations.)

DES should lead this effort by partnering with agencies to learn about the options available for administrative systems. For example, the state Lottery Commission needs a new financial management system and is exploring SaaS alternatives. DES would benefit by using Lottery as a laboratory of innovation, and use the lessons learned to inform our larger statewide financial systems replacement.

There will always be agency-specific needs and DES and CTS need to be able to not only provide centralized administrative systems; they also need to be enterprise-wide thought leaders and enable agencies to work with DES/CTS to build out agency-specific solutions. DES and CTS should work with agencies to identify efforts with broad applicability, and incorporate the learning from the agency-level experience into enterprise-wide solutions. This is a great opportunity to use the lessons learned from their efforts to move to a Software-as-a-Service (SaaS, or also known as a cloud-based service) to inform the state's larger need for Enterprise Resource Planning (ERP). This is discussed in more depth below.

DES also has a major role to play with enterprise-wide IT procurement, both as the agency authorized to develop master contracts for IT goods and services and in establishing the rules and oversight framework for all state agency procurements. Currently, the state's public procurement framework can be cumbersome, counter intuitive and result in suboptimal solutions. It can be an exceedingly slow process and procurement professionals can feel constrained, sometimes unnecessarily, by compliance and legalistic adherence to regulation rather than making decisions driven by business outcomes or hard-nosed negotiation with vendors. Our state's public procurement processes have repeatedly been identified as an impediment to experimentation. The system is structured such that every procurement — whether for a \$25,000 contract or a \$2 million contract — requires the same level of process and administrative bureaucracy. As a result it can be painful to conduct a small experiment, learn from it and incrementally grow an enterprise solution.

Fortunately, procurement reform, passed by the Legislature in 2012 and effective on January 1, 2013, provides DES with the means to help achieve the procurement goals of competition, fairness, and transparency in more efficient, nimble, and creative ways. DES, based on significant stakeholder input, is proposing a risk-based oversight framework that should reduce the regulatory overhead, and will focus on supporting agency procurement professionals through training and sharing best practices in promoting competition, ensuring transparency, effective negotiation strategies, and obtaining best value and contract performance. This approach holds great promise, but DES must remain vigilant in making the adjustments needed to ensure that IT and business leaders are able to obtain the best solutions at the best value and at the speed at which business needs to operate today.

While enterprise administrative systems, and procurement were part of the initial DES portfolio, DES could also provide value to the state by focusing on a few more areas that have enterprise wide impact — such as document management and discovery, web presence across the state, and facilities management technology. DES needs to shed the areas that it currently manages that are outside these focus areas. For example, the restructuring assumed DES would continue to provide desktop support and networking support for CTS, OFM, and the Governor's office, and a few small agencies that were on the former Department of General Administration network. These activities are more consistent with the mission of CTS and should be transferred there. Now, DES management must spend energy on helpdesk services for services that are not intended to be in its future, and CTS loses the opportunity to start thinking seriously about the direction of desktop support for state government.

We have chosen to separate technology policy from operations to provide, through the OCIO, an independent voice and objective assessment of enterprise IT strategies in state government. Enterprise service delivery was separated into two agencies — CTS for infrastructure services, and DES for application services. All three of these new entities — OCIO, DES, and CTS — are adapting to these organizational changes. The OCIO should work with DES and CTS to develop clear performance measures that can be tracked over time to determine whether this model provides the cost and performance improvements originally envisioned by the restructuring.

## IMPLEMENTING THE STATE IT STRATEGY

The [State Technology Strategy](#) was published in early 2012, and laid out a strategy for technology investments for Washington state government. It also identified a significant, targeted and achievable set of actions that should enable the state to get more and do more with its IT spending. It is a strategy for all Washington state agencies, with responsibility for delivery on the shoulders of many agency CIOs and their technology teams. The Office of the Chief Information Officer (OCIO) provides leadership and is accountable for ensuring success. A more detailed status report on our progress on each of these strategies is provided later in the document.

ACTION ITEM	PROGRESS
Security and Disaster Recovery	Some Progress
Accountability and Transparency	Rapid Progress
Public Cloud Adoption	Steady Progress
Private Cloud Adoption	Some Progress
SaaS Adoption	Rapid Progress
Enterprise Resource Planning	Some Progress
Service Consolidation	Some Progress
Manage Data Centers	Steady Progress
Free Up Data	Steady Progress
Easy Access to Government	Steady Progress
Replace Legacy Systems	Steady Progress
IT Employees	Discussion, No Progress

Three issues deserve particular attention —ERP and replacing legacy systems; cyber security; and e-government.

### ENTERPRISE RESOURCE PLANNING AND REPLACING LEGACY SYSTEMS

All state agencies perform some similar back office functions that are required to run their organization, including: human resource management; payroll; time, leave and attendance; recruiting; financial accounting. Washington state agencies have often performed these tasks with custom (usually mainframe) applications. With the exception of HRMS which manages human resources and payroll, we have essentially missed an entire generation of off-the-shelf applications delivered as Enterprise Resource Planning (ERP) applications that Fortune 500 companies adopted in the 1990s and 2000s. By missing this generation of applications, agencies can leapfrog and adopt best-of-breed SaaS or hosted solutions instead.

We must start down a systematic path for replacing our enterprise accounting system, AFRS, and other core financial systems of the state. The Governor's proposed 2013-15 budget includes funding for the development work needed to incremental improvements in this area.

In addition to back office functions, several core services in state government are provided by aging legacy systems. Legacy systems are potentially problematic:

- They often run on obsolete (and sometimes slow) hardware.



- These systems can be hard to maintain, improve, and expand due to an inflexible architecture. Those who were experts on the system have retired or forgotten what they knew about it. It often takes several months in on-the-job training for new staff to become productive.
- Some legacy systems may have vulnerabilities in older operating systems or applications due to lack of security patches being available or applied. There can also be production configurations that cause security problems.
- Integration with newer systems (such as mobile phones) may also be difficult because new software may use completely different technologies.
- Many of these systems are not flexible and it has become harder and more expensive to find the talent to maintain and modify them.

The Governor's proposed 2013-15 budget would also authorize funding the replacement or modernization of several of the critical legacy systems. Securing this financing is critical to preserving the core mission of state government.

## CYBER SECURITY

- The 2012 State of Utah breach of unencrypted data affected 28 percent of the state's residents; one in 10 had social security numbers stolen, and health and Medicaid data for nearly 800,000 residents was stolen. The state's CIO resigned, and it is estimated the breach will likely cost the state tens of millions of dollars
- In 2011, the State of Texas systems were breached and 3.5 million records, including names, addresses, social security numbers of education employees and retirees, were publicly exposed. This breach is expected to cost the state an estimated \$7.2 million plus likely significantly more in lawsuits.
- In 2012, South Carolina residents' tax records were hacked through the state's Department of Revenue, exposing personal data of nearly 4 million individual filers and 700,000 businesses. The state has taken out a \$20 million loan to cover expenses related to the breach.

The three data breaches described above provide sobering lessons about the cost of insufficient investments in cyber security.

The responsibility for enterprise-wide security leadership is shared. The OCIO is responsible for setting and maintaining security policy; CTS plays a leadership role in actually identifying and mitigating security risks in all agencies. In the future more needs to be done to help agencies actually detect when the state's security policies are violated in an agency.

The OCIO believes that we need a more coordinated statewide approach to improve security. While some agencies have done well in this area, we need more statewide investment and attention spent on tools for prevention and detection. As the South Carolina experience details, their revenue agency declined to use the state's centrally provided security services and suffered a serious breach. Not only did this breach cost the state millions of dollars, it also resulted in an after-the-fact requirement for statewide adoption of the security system.

In the push and pull of internal agency and legislative budget processes, it is easy to forget about the importance of investment in cyber security. IT security has benefits that are obvious to the IT community



but hidden to most policymakers. System security experts know they deflect thousands of attacks and probes a day. There are many examples of state IT systems that have been breached in recent months with large monetary and reputational hits to the administrations and citizens of those states. Accordingly, we are proposing that CTS systematically invest in increasing its security service solutions that it offers to various agencies. Details of the security decision package are provided below.

Security also requires a plan to create a culture of practices and policies. For example, we need to evangelize and adopt hardened passwords, better enforce physical access rules and educate employees about their frontline role in providing security by avoiding phishing attempts, placing passwords on Post-its next to their computer etc.

The threats posed to the Washington state network continue to evolve in complexity and impact. In some cases, the threats are politically motivated and publicly announced by “hactivist” groups, while in others, the threat is meticulously crafted and designed to avoid detection through coordinated planning, persistence and execution. Attacks have become more targeted and have taken to employing a longer-term approach to retrieving unauthorized data. This level of sophistication requires state security experts to develop new approaches for securing the state network that exceeds the traditional safeguards.

The foundational key to defending these attacks is to increase enterprise visibility, recognize the indicators of compromise and to discover malicious activity early in an attack. A successful intrusion resulting in data loss or an attack disrupting business services can have significant financial and integrity impacts, as exemplified in recent cases in Utah and South Carolina. The CTS security decision package addresses critical findings in the publicly released [Mandiant report](#) of incident response activity. A broader deployment of services for logging, vulnerability management, forward proxy, and cyber security awareness would have had significant impact in reducing risk to sensitive constituent data. South Carolina state officials recognize that they should have done more to protect their infrastructure and the public’s personal data, as reported in the [Washington Post](#).

The shared security services decision package seeks to build a common foundation of best practice security controls for agencies to deploy. These services have been carefully and specifically chosen to enhance the enterprise visibility as necessary to defend against today’s threats. In deploying these services, agencies gain a regional, agency-level view of security incidents of their network and pass this information on to a broader enterprise view for near real-time monitoring and alerting of threats.

While we are fortunate that CTS has the core of a strong security team, we believe that there is significant opportunity for delivering better enterprise-wide security services. Security is the No. 1 priority for the state, not only because we would like to keep our citizens’ data safe, but also because security policies and practices will enable us to move more aggressively into cloud services

In the coming months, the OCIO will need to redouble its efforts to put in place an enterprise-wide security policy framework. The current security policy, from an agency perspective is not very helpful—it is cumbersome to read, and agencies report difficulties finding answers in the document when faced with a specific security question. Once agencies find the information they need, it may not be specific enough to implement, and may require additional interpretation. We need to take a strategic approach to refreshing this policy. At a minimum, the OCIO (in collaboration with CTS) should provide:

- **A checklist of minimum security requirements:** Once the policy is refreshed, agencies would benefit from a checklist that communicates the state's minimum security requirements. This list should be maintained by the CSO and updated quarterly based on new attack vectors that agencies can use to help them minimize the risks.
- **Automated validation tools:** Ultimately, the checklist should be converted into a set of automated tools that agencies can use to verify compliance with the state's security requirements. Automated tools/services are essential so that agencies can test, and CTS can validate, agency compliance.
- **Vulnerability assessments and response:** Periodic tests of vulnerabilities, security compliance, and penetration testing are needed to verify that we are in fact secure and that agencies are doing the right thing and aware of gaps they may have. This is followed with an expectation that identified gaps in security are corrected or mitigated within a certain timeframe. It's not an FYI, but instead a directive to repair gaps.
- **Escalation path:** A path for CTS to escalate to the OCIO and agency directors if an agency is not being responsive to security issues. Usually, there is not a resistance to address security issues but we need to ensure that we stay on track to remediate problems that we find.
- **Education:** The bottom line is that individual employees don't see that security is their problem. Most think that it's all on CTS because CTS is at the border and we have deliberately or inadvertently reinforced an outdated "secure the perimeter" mindset to IT security. We need to educate IT professionals that security needs to occur at every level in the stack and they should be thinking about it in their daily work and it should be governing their day to day activities. Most have very little, if any, awareness to the vulnerabilities that actually exist and would greatly benefit and appreciate post-mortems of attacks like the South Carolina and Utah breaches.
- **A set of principles and guidelines to guide agencies in incremental decisions:** Agencies need guidance to help them think through other situations where discrete checklists are not present, as is the case when dealing with new or niche technology or when contracting with vendors. These are guidelines or pointers to best practices or a community of people answering questions. There is a real need to have the CTS security team be at the leading edge of learning about and coaching agencies about mobile, cloud and SaaS security.
- **Centralized security services:** In this context, the OCIO has worked closely with the security team to identify a set of services that should be offered as centralized security services from CTS. CTS has submitted a security decision package based on that initial research with approximate costs of rolling out these services enterprise wide. We strongly recommend that this security package be approved and the actual sanctioning of spending be based on OCIO oversight. Investing in software security services for Washington state is probably the most important investment we can make. We believe that the potential liability in case of a breach can easily reach hundreds of millions of dollars.

## E-GOVERNMENT AND MOBILE DEVICES

The Department of Licensing is at the leading edge of the state's e-government efforts. License Express, the department's new online licensing system provides a robust interactive experience for the individual. It provides individuals the ability to complete all their on-line licensing (driver license, vehicle licenses, etc.), allows for on-line payment, address changes, prompts individuals when renewals are up, and allows drivers to access their driver record. While other agencies are following suit to improve their users' experience, there has been no systematic interagency effort to execute on improved user experiences. The OCIO has been

working with several agencies that interact frequently with the public to incorporate e-government more deeply into the way government services are provided:

- We are tracking mobile device access to our web sites and this is a fast-growing mode of access. More than 50 percent of our citizens now carry smartphones and yet many of our services are not convenient to interact with via iOS, Android, Windows Phone and RIM devices. Identifying the right services to publish in a smartphone-friendly format and delivering them should be a top priority for Washington agencies.
- A team of agencies that interact regularly with businesses have been working with the OCIO to develop a high-level architecture and implementation plan for the creation of “MyAccount” — a one-stop portal that will make it easier for small businesses to conduct their work with state government. Funding for this project is included in Governor Gregoire’s proposed 2013-15 budget.
- We will likely enter into a relationship with a vendor that will allow us to get more done with our portal and User Interface for sites across the enterprise, and will assist the state with a user-fee based funding model to implement new e-government services.

## DEEP DIVE INTO IT SPENDING IN WASHINGTON STATE

One of the persistent criticisms of the state's technology program is the concern that, as a state enterprise, we have been unable to provide policymakers with consistent, coherent insight into the state's technology spend. Overcoming this lack of transparency has been one of the highest priorities of the OCIO. The entire state technology community has worked together and individually to improve in this area by participating in two major efforts that will significantly improve our understanding of the state's technology spend.

Our work in this arena is highlighted by three major phases:

- Understanding the state's Total Cost of Ownership
- Initiating enterprise-wide Technology Business Management
- Deep dive into each individual agency's technology organization and budget

### GARTNER TOTAL COST OF OWNERSHIP HIGHLIGHTS

First, we needed to get a better handle on how we as a state invest our technology dollars, and in the process create some level of consistency in definitions. This work began before the OCIO was created with the Office of Financial Management leading the state's effort to conduct a "Total Cost of Ownership" (TCO) study. Gartner Consulting, the preeminent national leader in conducting these kinds of studies, was hired to complete the assessment.

Total cost of ownership is an apples-to-apples comparison of a snapshot of expenditure information among peer organizations. Developing a statewide IT cost assessment was a major undertaking that required an enormous amount of input and effort from agencies. After working with the state for eight months to gather all of the necessary data, Gartner Consulting began analyzing the total cost of IT ownership — including infrastructure, application development and support — for 39 state agencies. Gartner's assessment compares the agencies' total cost of ownership, cost structure and productivity levels. It also contrasts the total for all of the reporting agencies to "peer" organizations — including government and private sector — of similar size and technical characteristics. Finally, Gartner identified areas of risk and opportunities for the state to improve.

- Within the 39 agencies examined by Gartner, the state's total IT spend in fiscal year 2011 was \$596 million — about \$12 million, or 2 percent, more than the peer organizations.
- Compared to so-called "25th percentile" peers — enterprises with the most efficient IT systems based on Gartner's research and cost database — Washington spent about \$146 million, or 32 percent, more.
- Gartner found that Washington's IT staffing levels are 14 percent greater than what peer organizations — and 47 percent greater than what peers in the 25th percentile — would require for the same workload. However, Gartner expressed concern that some agencies may be too thinly staffed for the technologies they run and workloads they support.
- While the state's overall IT costs are in line with peer averages, there are some significant variations among agencies in terms of IT infrastructure spending and staffing levels.
- Agencies who are closer to the 25th percentile should be leading and transferring their know-how in ways that move the enterprise from simply average, to better than average. That's consistent with the OCIO educational mission and activities.

- We should make Technology Business Management a priority to capture savings and redirect expenditure in IT to high value undertakings.

## IMPLEMENTING ENTERPRISE-WIDE TECHNOLOGY BUSINESS MANAGEMENT

We learned from the [Gartner total cost of ownership study](#) that, in aggregate, the state performs about average compared to its peers. We also learned that we are heterogeneous, with wide variations in performance agency-by-agency. Opportunities exist for us to improve many agencies' individual performance. The OCIO's Technology Business Management initiative can provide agencies better transparency and awareness of performance opportunities. This provides them with a tool for making incremental improvements in their management of IT and allows the Governor and Legislature to monitor ongoing financial performance of maintenance and operations in agencies.

In 2012, we initiated the Technology Business Management (TBM) program that should result in radical improvements in transparency and the opportunity for agency performance improvement. In June of 2012 we signed an agreement with Apptio, Inc. to provide 45 agencies in Washington access to an IT financial management software application used by many Fortune 500 companies around the world. Thirty agencies have been trained in its use as of November 8, 2012.

Apptio software offers a broad set of core functionality in a secure and scalable manner. By employing TBM best practices with agency expertise and the unique functionality of Apptio software, agencies improve transparency and decision-making in their IT spending. Agencies are not currently required to adopt this TBM program, but we expect that those that do will be able to provide unprecedented transparency and gain valuable insights into their IT spending as well as opportunities for efficiencies for IT spending in that agency.

This program will transform the way IT decision makers plan, fund, and report IT spend in the state. The overarching purpose is to ensure that agencies and the state as a whole better manage IT assets using solid financial and technical data.

To accomplish this, agencies build IT financial models in Apptio using the available sources of agency financial and technical performance information. The software allows flexibility in how cost and technical performance information are allocated and categorized according to common statewide requirements and unique agency-specific need. This enables each agency to understand how its IT spending is being distributed to different applications and infrastructure services and categories. Agencies are able to answer questions related to how efficiently IT solutions are being delivered and where there may be opportunities to save money or improve quality. One goal is to be able to use less of the IT budget to run operations and redirect spending to building and delivering new services.

Adoption of TBM and complementary practices will:

- Identify IT asset saving and efficiency opportunities across agencies
- Launch transformational transparency and accountability with the goal of helping agency CIOs learn more about their IT spending and use that information to drive improvements
- Support agencies best practices in their management of IT spending
- Enable IT services teams to generate a charge-back bill for IT or show back which costs were incurrent

or something equivalent for customers

- Increase the accuracy of internal services agencies' charge-backs
- Support rate-setting for IT services
- Provide for industry standard benchmarking comparisons
- Enable agencies to forecast demand and estimate their IT budget for the future
- Identify IT spending on new initiatives versus IT spending that is spent on running and maintaining existing programs

The momentum gained in the first six months of TBM has supported the service transformation of our central technology service agency as well as the consolidation of enterprise services. More than 15 agencies began their TBM journey in earnest with additional agencies coming on board. To date, more than 100 agency staff have received training.

## IT BUDGET REVIEWS

In October of 2012, the OCIO launched a face-to-face review of agency IT budgets and strategy and began a three-way dialog between agency executive management, their CIOs and OFM (Budget and OCIO) on the role, funding and management of IT. The OCIO and IT consultants along with staff from the OFM Budget Division held meetings with 30 agencies.

Each meeting was preceded by the sharing of IT financial information compiled by the OCIO from a variety of existing sources: AFRS, IT Portfolio, agency IT strategic plans, Gartner total cost of ownership study, HRMS (the state's payroll system) and agency submitted decision packages and projects.

In general, the meetings focused on deepening the understanding of how:

- Agency management sees IT serving the mission of the organization.
- The agency structures its IT delivery with a focus on financial accountability.
- Opportunities and challenges faced in the context of the agency to staffing, funding and utilizing technology.
- Ways in which the OCIO office could support meeting the challenges and opportunities.
- The agency fits into the enterprise wide strategic objectives of the OCIO.

## EARLY LESSONS LEARNED FROM OUR FOCUSED ATTENTION ON THE STATE'S TECHNOLOGY SPEND

Total spending<sup>1</sup> for FY2012 is reported to be about 7 percent less than the FY2011 level. IT spending continues to be concentrated in a handful of agencies, with six agencies accounting for half of all IT spending and the top 12 agencies representing three-quarters of all spending. The share of IT FTE's as compared to total agency FTEs dropped from 5.1 percent in the past two biennia to about 4.5 percent.

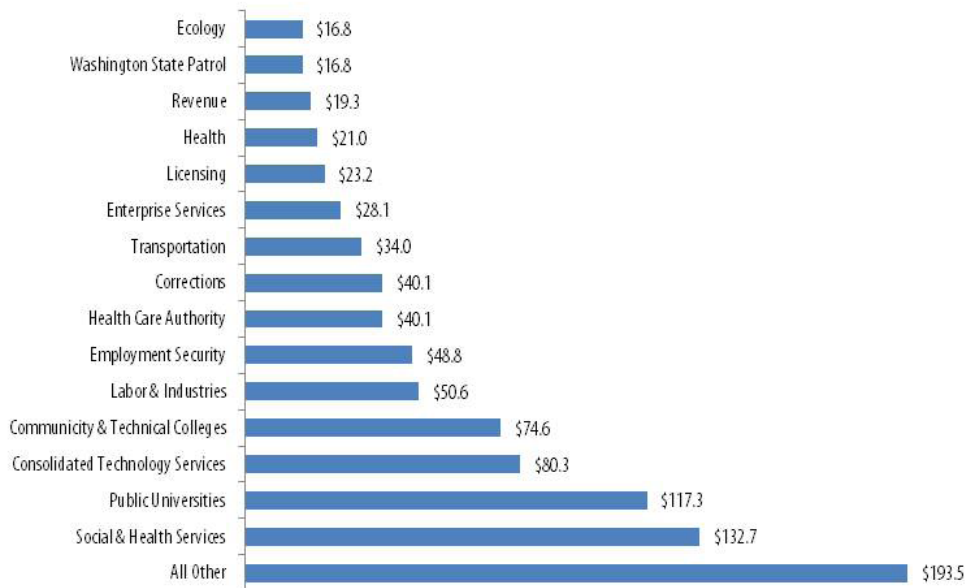
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1 As sourced from the agencies' annual IT portfolio report.



## State of Washington

### Total IT Expenditures – Dollars in Millions



Source: 2012 IT Portfolio Data (submitted by agencies)

It is important to acknowledge that many agencies do NOT budget for IT separately and therefore these numbers likely contain some error. Also, many large IT spenders (such as DSHS, UW, CTCS) have multiple IT teams within the organization and often the central IT team doesn't not fully know or track the IT spending in some of the other departments. Further, we are not disciplined in the state when it comes to properly classifying IT costs. Some people doing IT work are not classified as IT staff and people who are not doing IT work are sometimes classified as IT. The coding of IT spending in AFRS can often be erroneous. Nevertheless, these self-reported numbers are the best view we currently have.

As agencies adopt more technology to achieve their missions, IT has become a larger and more visible cost. In FY11, based on self-reported data by state agencies (excluding Legislative and Judicial branches and including regular phone costs), state spending for technology reached \$1 billion for the first time. Understandably, the Legislature and Governor have increasingly asked for more detail about IT spending.

The answers have been hard to come by for a variety of reasons. Unlike spending for machinery and staff, which have specific objects of expenditure to track in our statewide accounting system, technology does not. IT costs share accounting codes with other costs and span multiple accounting codes. As a stop gap measure further granularity was added to the existing account structure to capture IT costs. However, this has been cumbersome and time consuming for agencies, adding to their operational cost without adding value. The definition of what is considered IT is not well defined, constantly evolving in the marketplace and therefore, not consistently applied across agencies or other statewide reporting such as the agency IT

Portfolio. Adding to the complexity, IT budgets and expenditures occur in multiple places within an agency, their programs, and their projects and not just in the IT divisions as many assume.

We have found that while most agencies do have a grasp on many areas of their IT spending, few if any know exactly what they are spending on IT or how to categorize spending for benchmark comparisons or optimization of service/cost.

Over the last few years, Washington has taken steps to help fill the gap in identifying and understanding spending on IT. Some of those steps include conducting a total cost of ownership study, requiring agencies (with some delays and waivers for institutions of higher education) to report on their IT spending in AFRS and, most recently, adoption of Technology Business Management software. The TCO study also provided us with a framework for creating common definitions and categories for IT expenditures.

To round out our understanding of agency IT financial management practices and the context for IT budget requests, we also conducted agency reviews for executive agencies with more than \$1M/year in IT spending (not including higher education). The summary of these discussions for each of the agencies is contained in this report. This is the first time that the Legislature will get a summary of each agency's IT spending, and a discussion of challenges and opportunities.



## MAJOR IT PROJECTS – UNDERWAY AND PROPOSED

Understanding and having sound financial controls over the state’s technology expenditures are critical to the state, but transparency also requires that we have a good handle on the projects currently under way and those that are poised for implementation.

The following table lists all major projects that are either currently active, were completed, or were cancelled from July 1, 2009 through June 30, 2012; that is, the 2009-11 Biennium and Fiscal Year 2012. Staff from the OCIO oversees these projects. Agencies are required to obtain approval prior to starting, and report status to the OCIO. This list represents 46 projects with budgets totaling \$472 million. Twenty-seven remain active, 16 are complete, and three were cancelled.

## MAJOR IT PROJECTS – UNDERWAY AND PROPOSED

Agency	Project Title	Description	Start Date	End Date	Budget (millions)	Status
<b>Arts Commission</b>	Online Grants Management System	Implement an online grants management system tailored to the needs of public sector agencies that provide arts grants. The system will interface to the Western States Arts Federation.	Dec. 2009	Aug. 2010	0.2	Completed
<b>Board for Volunteer Firefighters and Reserve Officers</b>	Database Replacement	This project would have replaced the outdated and failing worker's compensation benefits and pension system with a new system based on current technology. The new system would have provided Internet access to fire districts and individual users.	July 2008	July 2010	0.4	Cancelled
<b>Consolidated Technology Services</b>	Data Center Firewall	Replace current end-of-life firewall technology with next generation security appliances. Provide enhanced firewall functionality to secure different levels of the threat landscape with a single security solution. The firewall protects the state's network from cyber threats and attacks. The equipment will be housed in the State Data Center.	May 2012	May 2013	2.4	Active
<b>Consolidated Technology Services</b>	Data Center Move (Phase 1)	This investment will refresh, install, and move equipment operating in the Office Building 2 (OB2) data center into the State Data Center (SDC). This will reduce the cooling problem in the OB2 data center and utilize the state's new state-of-the-art data center facility.	July 2012	June 2014	5.1	Active
<b>Consolidated Technology Services</b>	Data Center Network Core	Procure and install the network core for the State Data Center (SDC). Provides network connectivity for all service provided by CTS in the SDC.	May 2012	Feb. 2013	6.9	Active
<b>Consolidated Technology Services</b>	Data Center Storage	Expand the enterprise shared storage environment to support growth of existing services for current and new storage customers. Support storage consolidation initiatives, simplify storage services and reduce customer rates.	May 2012	Feb. 2013	3.3	Active
<b>Consolidated Technology Services</b>	Shared Services Email Project	Implement an in-house enterprise shared email solution that includes requirements for email delivery, security, and records retention for executive branch agencies.	Feb. 2011	July 2012	5.2	Completed
<b>Early Learning</b>	ELMS - ESP20	This system supports the management of child, programs, and provider records. It is part of the OFM P20 program.	Nov. 2011	June 2013	2.5	Active
<b>Early Learning</b>	Early Support for Infants and Toddlers (ESIT) Data Management System Replacement	This system collects data for early learning support for infants and toddlers.	Nov. 2010	Sept. 2011	2.6	Completed
<b>Early Learning</b>	Quality Rating and Improvement System (QRIS)	Collect data on the quality of providers.	March 2012	Sept. 2012	0.4	Completed
<b>Early Learning</b>	Washington Integrated Nutrition (WINS)	Implement a modern off the shelf comprehensive child nutrition system.	December 2011	November 2013	2.5	Active

Agency	Project Title	Description	Start Date	End Date	Budget (millions)	Status
<b>Enterprise Services</b>	Time, Leave and Attendance (TLA)	Implement an enterprise system to reduce agency inefficiencies in timekeeping and leave management business processes, reduce effort and risk meeting current statutory and regulatory requirements, reduce system duplication, and improve tools and data for management. This project is in the initiation phase and will include two anchor tenants; Washington Department of Transportation and the Department of Ecology. The next implementation wave will include other state agencies determined by criteria developed by the Department of Enterprise Services.	Feb. 2012	June 2012	1.0	Initiation (pre-approval)
<b>Health</b>	Integrated Licensing and Regulatory System Online Renewals	Enable health care providers to renew or apply for licenses, check the status of applications and licenses, make address changes, and pay by credit card online.	Nov. 2010	June 2013	1.9	Active
<b>Health</b>	Prescription Monitoring System	Implement a prescription monitoring system that contains patient prescription histories that will inform prescribers' and pharmacists' decisions regarding patient medications. The goal is to identify and prevent abuse, misuse, duplicative and forged prescriptions, dangerous drug interactions, and accidental overdose.	Jan. 2011	Oct. 2011	0.3	Completed
<b>Labor &amp; Industries</b>	Administrative Efficiencies	Design, develop, and implement an enterprise wide electronic outbound correspondence service replacing 14 applications.	July 2011	June 2013	1.8	Active
<b>Labor &amp; Industries</b>	Early Claims Solutions (ECS) Technology	Design and implement faster, more efficient claims reporting and assignment of resources and assistance to the reported accidents. The project designed and built 1) phone and Internet claim filing, 2) display of consolidated claim and account information, and 3) electronic analytical tools to expedite claim decisions and referral.	July 2009	July 2012	16.2	Completed
<b>Labor &amp; Industries</b>	Occupational Health Management System (COHE)	Develop a web-based solution to support care coordination activities and tracking of occupational health best practices to improve outcomes for injured workers.	July 2011	June 2015	7.1	Active
<b>Labor &amp; Industries</b>	Settlement Agreements Project	Develop new processes for calculations and modifications to existing systems to support the new program that allows qualifying workers to voluntarily enter into a structured settlement agreement.	July 2011	June 2013	2.4	Active
<b>Labor &amp; Industries</b>	Washington Stay at Work Project	Enhancements and modifications to existing systems to support quick and efficient return-to-work approaches. Provides additional needed hardware and software.	Aug. 2011	June 2013	2.4	Active
<b>Licensing</b>	Prorate & Fuel Tax System Replacement	Replaces the current Fuel Tax collection service. The contract for this will expire and needs to be upgraded.	July 2013	June 2015	7.4	Active
<b>Social &amp; Health Services</b>	FamLink	Replaced legacy system that manages the services delivered to children and families. Includes case management, servicer	Aug. 2004	July 2010	33.7	Completed

Agency	Project Title	Description	Start Date	End Date	Budget (millions)	Status
		provider management, and foster home support.				
<b>Social &amp; Health Services</b>	Fraud and Abuse Detection System (FADS)	Replaced the legacy system with an enhanced detection and prevention system that is state of the art and compatible with the new functions delivered in all phases of ProviderOne, including social service payments.	Nov. 2007	Feb. 2011	6.4	Completed
<b>Social &amp; Health Services</b>	ProviderOne (Phase 1)	Replaced the legacy Medicaid Management Information System (MMIS) with a federally approved, modern architected system. The new system supports over 1 million clients and 40,000 providers statewide. It also handles all Medicaid payments in Washington, approximately \$4 billion and 25 million claims annually. Legislation moved the DSHS administration that was responsible for ProviderOne to the Washington State Health Care Authority effective October 1, 2011.	Feb. 2003	May 2010	142.3	Completed
<b>Transportation</b>	Enterprise Security System Upgrade (ESSU)	Replace the current security system in use for Ferries at all terminal and vessel sites (43). Scope includes integration with access control devices, alarms, cameras, and a new identification credential management system.	July 2012	Feb. 2014	4.5	Active
<b>Transportation</b>	Project Management Reporting System (PMRS)	Implemented a new project management system that improves project management and control processes on construction projects, and improves the timeliness and quality of WSDOT project accountability.	March 2007	June 2010	16.1	Completed
<b>Transportation</b>	Tolling Customer Service Center (CSC) / (TCS)	The CSC portion supports establishment and maintenance of customer tolling accounts, distribution of transponders, processing of toll transactions and payments, and accounting for the 520 Float Bridge, the Tacoma Narrows Bridge, and the SR 167 High Occupancy Toll (HOT) Lanes. The TCS portion includes electronic and photo tolling equipment on the 520 Floating Bridge.	Dec. 2009	Sept. 2013	15.1	Active
<b>Transportation</b>	Tolling for I-405, SR 99 Deep Bore Tunnel, and New SR 520 Replacement Bridge	Design, install, operate, and maintain equipment and software for electronic and photo tolling on these roadways similar to tolling on the existing SR 520 Floating Bridge. DOT may expand to contract to support future tolling projects.	Jan. 2012	June 2015	19.8	Active
<b>Transportation</b>	Vehicle Reservation System (VRS) - Phase 1	Replaced three legacy reservation systems. It supports existing phone operator reservations and adds the capability for customers to self-schedule, cancel, or change a reservation via the Internet. System benefits include demand management, spread peak vehicle traffic, improve vessel and dock utilization, reduce wait times, improve customer service, increase travel predictability, and minimize the need for costly terminal and vessel expansion projects.	July 2010	Nov. 2012	2.7	Completed
<b>Employment</b>	Next Generation Tax	Replace the legacy Unemployment Insurance tax system and 14	Aug. 2008	Oct. 2013	46.8	Active

Agency	Project Title	Description	Start Date	End Date	Budget (millions)	Status
<b>Security</b>	System (NGTS)	ancillary systems. The new system will include functionality that is either currently done outside the core system or done manually. The accounting portion of the new system will be GAAP (Generally Accepted Accounting Principles) compliant.				
<b>Evergreen State College</b>	Banner Human Resources Module	Implementation of Banner Human Resources and Payroll modules.	Jan. 2010	March 2011	1.1	Completed
<b>Health Care Authority</b>	Health Record Banks	Implemented a system to facilitate the creation and establishment of a statewide health information infrastructure and health record banks that facilitate the secure exchange of health information.	July 2007	June 2011	3.4	Completed
<b>Health Care Authority</b>	ProviderOne - Phase 2	Phase 2 will move Medicaid payment processing from the legacy Social Service Payment System (SSPS) to ProviderOne. Phase 2 will make Medicaid payments for eligible social service providers: residential facilities, home care agencies, and individual providers. The transition from SSPS to ProviderOne serves two major provider groups within DSHS: 3,200 residential facilities/home care agencies and 30,000 individual providers represented by Service Employees International Union (SEIU) #775.	March 2012	Dec. 2013	25.4	Active
<b>Liquor Control Board</b>	Fee and Tax Collection System	Develop a spirits fee and spirits tax collection process.	March 2012	March 2013	3.8	Active
<b>Military Dept.</b>	Next Generation 911 Emergency Services Internet Protocol and Automatic Location Information Database (NG911)	This project was part of a nationwide migration for NG911 that will have the capability to handle additional information in the form of text messages, photos, and possibly video, and be able to pass it to the Public Safety Answering Point and/or first responders. The project replaced the current antiquated E911 system and database with a modern Internet Protocol capable network for the Next Generation 911 Emergency Services Internet Protocol Network and Automate location Information database.	March 2012	April 2012	12.0	Completed
<b>Military Dept.</b>	SAS	This project would have replaced the current E911 statewide county manual data entry process with a modern centralized database.	Jan. 2012	May 2012	1.1	Cancelled
<b>Office of Administrative Hearings</b>	System for Tracking Administrative Review (STAR)	Replace the current unsupported appeals case management system with a commercial off-the-shelf (COTS) product. The new system will initially support appeals of Unemployment Insurance claims decisions issued by the Employment Security Department. The system will have the flexibility to expand to other appeal types at later dates.	March 2012	March 2013	1.7	Active
<b>Office of Financial Management</b>	P20 Data Warehouse	American Recovery and Reinvestment Act (ARRA) funded grant to design and implement a P20 longitudinal data system.	Nov. 2012	June 2012	8.1	Active

Agency	Project Title	Description	Start Date	End Date	Budget (millions)	Status
<b>Superintendent of Public Instruction</b>	Educator Certification System	Provides for online application for certification of educators.	May 2012	Sept. 2013	0.8	Active
<b>Superintendent of Public Instruction</b>	School Meal Direct Certification	Federally funded grant to upgrade the identity brokering process that automatically matches and enrolls students into free and reduced price lunch programs.	June 2012	Dec. 2013	1.0	Active
<b>Superintendent of Public Instruction</b>	State Longitudinal Data System	K12/Student Longitudinal Data Warehouse provides longitudinal data to K12 schools and will interface with the P20 Data Warehouse.	June 2009	June 2013	5.7	Active
<b>University of Washington</b>	Computerized Provider Order Entry	Automates the currently manual entry of physician order entry.	Sept. 2010	Nov. 2012	29.1	Active
<b>University of Washington</b>	Electronic Faculty Effort and Cost Share Reporting	Automated the requirement to track time charged to research grants. This phase focused online certification of time reports eliminating paper.	April 2011	April 2012	2.6	Completed
<b>University of Washington</b>	UW Payroll/HR Replacement	Replacement for the UW Legacy Payroll/Human Resources system with a Software as a Service (SaaS) or hosted system.	Sept. 2012	April 2016	TBD	Active
<b>Utilities &amp; Transportation Commission</b>	Web Site, Case Management, and Document Management System (WCD)	This project would have implemented a redesigned case management system and provided Internet access to UTC information and case documents to the public.	Aug. 2009	March 2012	0.8	Cancelled
<b>Washington State Patrol</b>	A Central Computerized Enforcement Service System (ACCESS) Replacement Project	Replace the existing, non-supported ACCESS message switch that supports all law enforcement and criminal justice agencies in Washington. The ACCESS switch allows criminal justice agencies to exchange all-points bulletins, criminal history, driver and vehicle information, information related to unsolved crimes, wanted and missing persons, protection orders, and other information. The system also provides connection to the FBI's National Crime Information System (NCIC).	July 2008	Sept. 2013	1.0	Active
<b>Washington State University</b>	Replace Core Student Information Computer Systems	Replaced WSU legacy student system with the Oracle Student System module from the PeopleSoft ERP.	July 2010	Sept. 2012	15.0	Completed

## FUNDING FUTURE CRITICAL PROJECTS

The OCIO enabling legislation authorizes the OCIO to evaluate state agencies' current IT spending and IT budget requests, and submit recommendations for funding all, part, or none of the requests to the Director of the Office of Financial Management.

OCIO has conducted formal reviews of many of the decision packages that are funded in the Governor's budget proposal. For a complete list of technology-related budget requests, please see Appendix 2. These reviews were a forum for the CIO, OCIO staff and selected peers to ask questions and learn about the business area as well as systematically give feedback on the approach being proposed. In a small number of cases, we suggested that the project should not be funded, but more often the feedback was related to the approach being adopted. In many cases, the suggestions when implemented can offer potentially big change to the overall solution that will be developed.

One overwhelming realization as OCIO worked its way through the decision packages was that there is a tremendous amount of technology work being done across the state and its impacts are very wide and deep. There are a large number of critically important technology systems that are very old and need updating. Finally, although the state has a competent and passionate IT staff, we are currently sorely lacking in the right kind of talent to build out new software systems. That said, unless we are willing to make radical changes in the way we pay for and hire/fire IT staff in state government, we are going to have to work within the confines of the system we have today. This means being savvy about recognizing which agencies have the capability of executing on what kinds of projects. It means insisting on regular updates on the progress of a project and having well-defined milestones during the course of execution of a project. Since most of the more difficult projects will have external vendors that deliver the software and customize it for the state, it becomes very important to have a strong project management component for projects that are expensive and have a lot of stakeholders.

We have categorized these dollar requests and have an approximate categorization of the dollars asked for in technology decision packages. These numbers are approximate since there have been and will continue to be adjustments in the estimated cost as well as a small number of new decision packages that are proposed in the final stages of preparing the budget.

The largest request category is for application development as well as ongoing support and maintenance. Several agencies are planning to replace aging legacy systems that in many cases were developed in the 1980s and 1990s. Examples include the departments of Revenue, Employment Security, Retirement Systems, and Licensing. Several agencies are continuing work on later phases of projects that are already in production; examples include the Washington State Patrol, the Department of Health, and the Department of Social and Health Services. The Department of Enterprise Services is working with the Department of Transportation and the Department of Ecology as initial users to implement a new Time, Leave, and Attendance system to support, among other requirements, time reporting for federally funded projects.

This year the OCIO received and reviewed 86 IT-related budget requests from 30 separate agencies. Of these, 82 requests were for funding in the 2013-15 Biennium and the remaining four were supplemental requests for Fiscal Year 2013. All of the dollar amounts below are in millions.

### REQUESTS BY FUNCTIONAL GROUP

Human Services*	\$284.4
General government	111.3
Transportation	22.0
Education	17.9
Natural resources	2.7
<b>Total</b>	<b>\$438.3</b>

\* Includes \$172M pass-through for Health Information Technology grants.

### REQUESTS BY TECHNICAL CATEGORY

Application & software support and maintenance	\$199.2
Hardware*	184.7
Telecommunications	17.7
Disaster recovery	0.5
Other	36.2
<b>Total</b>	<b>\$438.3</b>



## IT PROJECT LANDSCAPE

### POLICY – MAINTENANCE – CAPITAL REQUESTS

There are 82 requests for funding in the 2013-15 Biennium requests are distributed among 50 policy requests, 31 maintenance requests, and 1 capital request (in millions):

- **Policy requests:** \$148.9
- **Maintenance requests\*:** \$239.6
- **Capital request:** \$0.1
- **Total:** \$388.6

### TOP TEN AGENCIES BY TOTAL DOLLAR REQUESTS

Health Care Authority*	\$228.3
Consolidated Technology Services	34.7
Social & Health Services	29.1
Employment Security Department	25.5
Enterprise Services	16.9
Revenue	15.3
Labor & Industries	14.3
Washington State Patrol	9.6
Military Department	9.0
Corrections	8.7
All remaining agencies	46.9
Total	\$438.3

*\*These amounts include \$172 million in pass-through funds for the Health Care Authority's Health Information Technology grants.*

## AGENCY SPOTLIGHT

The remainder of this report will focus in depth on the observations and opportunities ahead, and present agency-by-agency profiles including budget and project perspectives. Because this was the first such effort by the OCIO, we chose to focus on executive branch agencies. We did not visit important agencies such as Attorney General's office, Legislative agencies, and the Office of Superintendent of Public Instruction. We also did not examine the maintenance and operations of four-year universities since those IT leaders were not receptive to such a discussion.

There is much happening in agencies with great stories of success that often do not get attention outside the agency, and in many cases have limited exposure within the agency.

Agencies vary in their capacity and achievements, and even within a single agency some activities are performed better than others. Each agency's IT story reflects a unique combination of factors affecting their use of IT. In some agencies, with limited resources but great leadership and vision, outstanding innovations have been created. In some regards each agencies' IT capability and performance is explainable from a variety of conditions unique to their mission, legal and budgetary constraints, the accumulation of past investments and management decisions and other factors.

Agencies with leadership that understands and values technology, and that have a culture that supports change, are able to more easily innovate and introduce technology as an enabler to solving their business problems or achieve efficiencies.

The sections below go into the details of proposed IT spending and, for the first time, there is a discussion Maintenance and Operations IT spending agency by agency. We will also discuss in brief the OCIO's views of the most important decision packages for the upcoming legislative session. We will highlight some of the success stories of the recent past, but there is no way we can be comprehensive.

# CONSOLIDATED TECHNOLOGY SERVICES (CTS)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### ORGANIZATIONAL CONTEXT

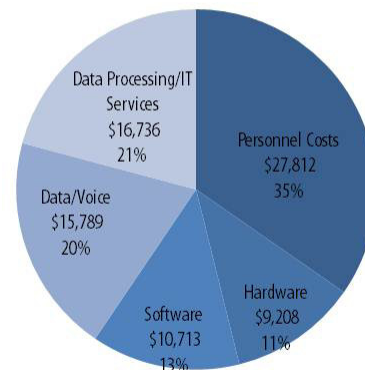
Created in 2011, CTS is still a very young agency. The CTS team has accomplished a lot in that short period of time. In a little over a year, CTS has:

- Created a new agency, negotiated staff assignment changes, redesigned several “back-office” functions with support of DES, created “zero based” budget.
- Created a Customer Advisory Council consisting of Agency CIOs to provide feedback and direction on services.
- Significantly re-scoped State Data Center implementation plan. This was done because it became clear that simply moving a whole bunch of machines from one agency data center to the new State Data Center will not yield any economies of scale and instead will result in a lot of expenditure without any real benefits.
- Completed implementation of the State Metropolitan Optical Network for fully redundant, high-speed access for 32 agencies in the Thurston County area.
- Implemented the Security Operations Center as a focal point for efficient containment, recovery and reporting of security incidents.
- Completed design and procurement for the “next generation firewall security service” which will simplify administration and improve security when brought online with the SDC.
- Took initial steps toward improving transparency and service quality and efficiency through early adoption of the Aptio Business Management tool.
- Completed initial design and procurement of an enterprise storage solution which will facilitate a significant reduction in storage rates.
- Significantly reduced overhead by eliminating several executive level positions.
- Reduced management layers (de-layered) improving internal lines of communication

Implemented several service rate reductions including:

FY 2012-13 Rate Reductions	
Service	Biennial Amount
Data Center Access	\$1,571,824

### Consolidated Technology Services IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

IBM Mainframe Services	\$4,545,872
Storage - Online Disk	\$1,416,968
Storage – TSM	\$963,109
Enterprise Security Infrastructure	\$476,908
Security Gateways	\$450,000
Total Reductions:	\$9,424,681

FY 14, 15 Rate Reductions	
Service	Biennial Amount
Disk-based Storage	\$3,177,053
Vault Storage	\$796,471
Campus PBX	\$1,156,158
PBX Voicemail	\$415,878
Centrex Voicemail	\$182,964
VPN	\$1,545,011
Total Reductions:	\$7,273,536

- Delivered cost-effective email messaging service and successfully migrated more than 45 agencies — more than 51,000 users who now have secure email, filtering, and archive and search. It is less expensive than Office 365. Gartner gave an “impressive” cost effectiveness rating. It achieved Microsoft’s “Outstanding” rating in a formal Risk and Health Assessment. The originally estimated budget for the project was \$8.5M; however the actual spend is anticipated to be approximately \$5.2M — 61% of the approved budget.

While this progress is impressive, the agency’s leadership is continuing to implement significant change in several critical areas:

- CTS is refocusing from a “boutique” to a more standardized business model. CTS manages more than 500 servers divided into more than three dozen separate environments. All of these environments have custom agreements, monitoring, patching and pricing deals. Until these environments are brought into a tiered and standardized environment, CTS will struggle to deliver great customer service at the right prices. This is a fairly straightforward effort but will need careful project management and staff to do it without causing disruptions. It will also need CTS to manage its relationships and coordinate well with the agencies served. Our hope is that this effort will be launched without any delay and will reach a favorable conclusion in short order. It is our opinion that unless this is done, it will be more expensive and take more time to set up a private cloud environment.

In general, CTS does not really have standardized services. Services have grown organically as a result of past business practices that emphasized boutique services which tend to increase administrative overhead and support costs. CTS needs to rapidly change to a more standardized set of services. Cost accounting within is an intricate system of internal cross-charging that developed to ensure federal reporting needs are met and that each service was cost recoverable in its own right. CTS should evaluate the current system and determine how to streamline it to ensure reporting requirements are met, and that there is transparent accounting of costs.

- CTS should provide a rate for different tiers of support. CTS should replace its approximately 40 tailored agreements for server hosting with a standard set of tiered services. Making this change is an extremely important step in driving down costs, and improving customer responsiveness and being able to do this with a smaller headcount so we can free up people to work on numerous new services that are needed badly. We are worried that this change is being conflated with adoption of new private cloud technologies and a move to the new State Data Center. We believe that trying to combine these two into one project may end up making that project more expensive. For example, expensive private cloud consultants may sit around being paid an amount per hour while CTS figures out how to get agencies to make the changes needed to move to a standardized environment.
- Similarly, CTS should define a path forward and a timeline for the numerous a la carte customers who are merely getting power and cooling from CTS today. This service is likely not recovering costs and we need a CTS plan to provide hosting services with lower administrative, hardware and software costs in the proposed private cloud environment. This will then provide the necessary incentive for agencies to start moving their hosting support to CTS. If CTS is able to make this happen, it will be able to take over and provide hosting services for large agencies such as L&I and DSHS.
- **Converting to streamlined and easy-to-understand billing.** CTS billing statements are very dense and granular, requiring significant investment of staff time both to generate and then to understand the content. It is imperative that these bills be made easier to understand in the context of a standardized set of services. This would not only free up staff time, but would also provide greater transparency into the actual cost of its services. The Technology Business Management suite has a “Bill of IT” module that CTS plans to leverage to achieve this goal.
- **Building a highly nimble technology team.** Inflexibility within the workforce is a major issue that can delay or block the transformation of CTS. To be successful at achieving its mission, CTS will need to be highly nimble. CTS will need to collaborate closely with its workforce leaders to ensure the CTS team has the tools necessary to adapt quickly to changes in agency needs and emerging technology.
- **Improve the state’s disaster recovery program.** The state’s disaster recovery story is not very robust. We do backups for the most part and that’s about it. There is a great opportunity for CTS to step in and fill the void. What’s more, the storage architecture for any virtual/private cloud environment in the new data center should be designed and planned from the ground up to enable replication of data to remote locations, perhaps to a cloud environment at a vendor, as well as a restore capability in a similar virtualized environment. The SDC environment’s design should include such a capability and the CTS budget ought to capture a proposed investment in providing such services.
- **CTS should define targets for savings in administrative costs;** hardware and software costs for the next biennium and should track if they are hitting those targets.
- Currently most agencies procure network tail circuits that connect to the SGN from contracts managed by CTS, deciding when and where circuits should be added, upgraded, or terminated. This reduces the state’s purchasing power through piecemeal procurements. CTS should drive longer-term planning and coordination of these tail circuit procurements to enable more regional competition and volume purchasing. CTS should also continue to pursue moving from a retail purchasing channel to a bulk wholesale channel to achieve better prices and to better align with its role in network provisioning and management. CTS should continue to refine its network procurement practices to take advantage of the completion in the current market.
- CTS should propose a mobile device management approach and purchase and create a pilot for mobile

device management. This is a dire need for agencies and CTS can lead and provide services for agencies.

- Several agencies are contemplating moving from CTS's phone service to VOIP (voice over internet protocol) service offered and managed by a telecommunications vendor. While the CTS service competes quite favorably from a cost perspective, it may not offer the same strategic and technical advantages. CTS should evaluate these competing technologies as a possible enhancement or roadmap to replacement to its current offering.
- Currently, as a state, the administration of Active Directory (AD) is federated. As a result, user identity is not properly managed and there are often stubs of past users as well as duplicate accounts. This constitutes a security issue as well as makes it hard to use applications within the state since many important administrative applications do not use AD for their authentication. CTS & DES should work together to truly provide single sign-on for all enterprise-wide resources for employees. There should be a process and a toolset to ensure that Active Directory is properly maintained and there are no lingering unused accounts. The process of creating a new employee in the enterprise should wrap the process for creating an AD user and similarly for employee termination.
- There are currently many different VPN technologies being provided by CTS. Nearly all of them are expensive and many agencies forego connectivity from remote offices (State Parks, for example) because they believe that the cost/month for VPN is too high. CTS should consolidate the current multiple VPN services and standardize on one secure VPN technology. CTS should lay out a timeline for getting rid of most of VPN hardware tokens (dongles). CTS offers a much lower cost software token. Helping agencies convert to this technology quicker will lower costs of VPN.
- There is increasing demand from numerous state agencies for cloud platform services. Many agencies are moving from experimentation to actual production usage. CTS needs to step up and provide a set of services that makes this kind of cloud adoption easy and cohesive — this includes training, procurement, billing, volume discounts, authentication, toolset choices, monitoring solutions and more. As it stands, different agencies are all moving forward on their own and we may quickly land up in a situation very similar to the one the state was in with numerous agency-owned data centers scattered in various locations. This is the right time for CTS to recognize that cloud platforms are going to be pervasive and start offering cloud platform brokering services.
- CTS personnel can often be conservative when it comes to trying out new vendors and technologies. This means that vendors that are already part of the CTS landscape tend to be favored. This is not done with any malicious intent but because the old DIS was clearly not good at continuously retraining and challenging its workforce. While this is changing somewhat, we would like to urge CTS management to be more aggressive about thoroughly looking for alternatives and to encourage people to explore by setting a personal example.
- We urge CTS executive management to be more specific about the goals and timelines for CTS and more aggressive in driving for change that enables these goals and timelines. Without being more aggressive, it will be hard for CTS to be the leader in providing shared IT services in government.
- **Networking costs:** The state currently has more than a thousand contracts for networking connections to all the state locations. At this stage, there are hundreds of retail contracts with telecommunications companies with tens of millions of dollars of expenditure. Based on a review with an independent company, it is pretty clear that the state could likely realize significant savings if it negotiated a strategic wholesale contract with a small number of telecommunications companies. The city of Seattle and the state of Oregon have such relationships that give them substantial discounts over retail prices today. In

Washington, these contracts are negotiated one at a time with CTS. The telecommunications companies are not incented to provide discounts appropriate to an organization the size of Washington state. The OCIO would welcome the opportunity to work with CTS to develop a strategic approach to taming these costs, including engaging with senior executives from telecommunications companies to look for better bandwidth costs by providing us wholesale rates. We could benefit by bringing in an independent expert to analyze all networking costs and identify networking bandwidth cost savings across the state for the upcoming biennium.

## PROJECT SPOTLIGHTS

### State Data Center (SDC) Projects

#### *Project Descriptions*

The four projects presented here have been initiated by CTS, approved by the OCIO and are under OCIO oversight. These projects are part of a significantly larger effort to create a fully operational State Data Center. The larger SDC effort and associated funding are discussed elsewhere in this report.

- **Network Core:** Procure and install the network core for the State Data Center (SDC). The network core provides the connectivity for all service provided by CTS in the SDC.
- **Storage Optimization:** Expands the enterprise shared storage environment to support growth of existing services for current and new storage customers. It supports storage consolidation initiatives, simplifies storage services and reduces customer rates. CTS will initially procure up to 330 terabytes of disk storage. The disk array that houses the initial 220 terabytes must be able to support growth to a total of 2 petabytes of disk.
- **Firewall Project:** Replace current end-of-life firewall technology with next generation security appliances. These provide enhanced firewall functionality to secure many different levels of the threat landscape with a single security solution. The firewall protects the state's network from cyber threats and attacks. The equipment will be housed in the SDC.
- **Move – Phase 1:** Refresh, install and move equipment operating in the OB2 data center into the SDC. This will reduce the cooling problem in the OB2 data center, while taking advantage of the state's new state-of-the-art data center facility.

The broader CTS data center effort includes the following projects listed below.

Project	Start Date	End Date
OB2 Heat Reduction	March 2012	October 2012
SDC Facility Readiness	March 2012	July 2013
SDC Cloud Utility	October 2012	May 2013
WSP Migration to the SDC	February 2012	July 2013
Virtual Tape Library	February 2013	December 2013
SDC Move Phase 2	July 2014	November 2015
OB2 Data Center Optimization	December 2014	January 2016

- **OB2 Heat Reduction:** This project will determine if any equipment can be turned off in the OB2 data center to immediately reduce the heat being generated. This involves working with OB2 customers to



identify equipment that can be shut down now or in the near future and put in place a process to shut down less critical systems and equipment in the event of a major cooling system malfunction.

- **SDC Facilities Readiness:** This project will complete the remaining work required to make the SDC facility operational. This includes areas such as physical security, access controls, equipment enclosures, structured cabling, and operational procedures.
- **Cloud Computing “Utility”:** This project will deliver a private cloud computing platform for state agencies to use for server consolidation. This supports one of the objectives of the new Washington State Information Technology Strategy published by the OCIO in February, 2012.
- **Customer Migration — Washington State Patrol (WSP):** CTS will work with WSP in a multi-phased project with the ultimate goal to fully migrate their primary data center to the SDC.
- **Virtual Tape Library (VTL):** This project will facilitate mainframe migration to the SDC. It will also result in cost savings by eliminating physical tape for mainframe disaster recovery and will reduce time to recover the mainframes in a disaster.
- **OB2 Risk Mitigation (CTS Move) Phase 2:** This project will continue the heat reduction progress of Phase 1 by moving additional CTS equipment to the SDC.
- **OB2 Data Center Optimization:** Low airflow and poor circulation are major factors contributing to the cooling problems in the OB2 Data Center. Once most of the CTS equipment has migrated to the SDC, old under floor cabling will be removed and new cabling placed in overhead trays. Equipment enclosures will be consolidated and reconfigured as necessary to optimize airflow and cooling in the remaining active areas of the OB2 Data Center. Vacated areas will be shut down where possible to save money.

Project	Schedule	Start Date	End Date
Network Core	Original	May 2012	February 2013
Storage Optimization	Original	May 2012	February 2013
Firewall Project	Original	May 2012	May 2013
Data Center Move Phase 1	Original	July 2012	October 2013

Project	Project Status
Network Core	In-Progress
Storage Optimization	In-Progress
Firewall Project	In-Progress
Data Center Move Phase 1	In-Progress



Budget Category	SDC Network Core	SDC Storage Optimization	SDC Firewall Project	SDC Move Phase 1	Project Totals
Staff (salaries and benefits)	291,426	190,434	76,275	1,760,517	2,318,652
Purchased services	1,862,879	353,890	308,750	385,994	2,911,513
Personal services	0	0	0	0	0
Hardware	4,482,521	1,831,589	1,945,856	1,653,943	9,913,909
Software	0	707,681	75,826	628,712	1,412,219
Travel	0	0	0	0	0
Training	0	0	0	40,375	40,375
Other	250,000	260,000	0	600,000	1,110,000
TOTAL	6,886,826	3,343,594	2,406,707	5,069,541	17,706,668

### *OCIO Analysis of Projects*

Issue and risk management will be critical to the success of this large and complex set of activities. The overall move into the SDC is not as important as the benefits of driving consolidation in infrastructure services. This consolidation will not be successful unless CTS is able to offer and then incent its current customer base into a more standardized set of services, improve customer service so that more agencies are attracted to CTS and systematically continue to drive down costs and increase transparency.

CTS also needs to start planning now to figure out how to move the agencies that are in OB2 and only depend on CTS for power and cooling to the SDC and at the same time provide great rates and customer service to incent them to start consuming hosting, networking, storage, security and other infrastructure services.

# DEPARTMENT OF ENTERPRISE SERVICES (DES)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### ORGANIZATIONAL CONTEXT

The vision for DES is that the state should have an agency that handles all the typical administrative services needs of Washington state government. Essentially, if a large number of agencies have a similar or common need, then those services can be delivered more efficiently with economies of scale by DES. This is a compelling vision.

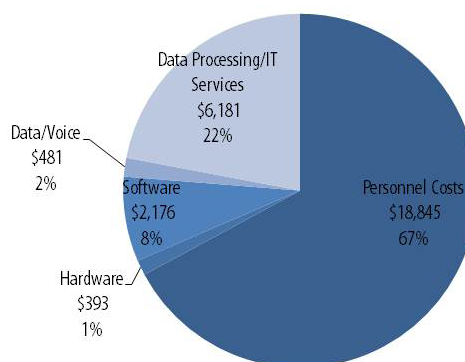
DES is the enterprise service provider for administrative support services such as facilities management, fleet management and transportation services, mail, printing, surplus property and recycling, master contracts and procurement oversight, risk management and insurance, training and recruitment support, employee advisory services, and administrative support to small agencies.

The creation of DES also consolidated the enterprise financial and administrative systems previously provided by OFM, the Department of Personnel and the Department of General Administration. Unlike CTS, whose primary customers are agency CIOs and technology teams, the customers and users for DES's technology services are the financial managers, budget officers, HR/Payroll personnel, contract managers, and administrative services managers. DES also provides some back-office support services to CTS and OFM, including IT support for OFM, CTS, and the Governor's Office.

So, while the concept of splitting enterprise IT activities into policy and strategy at the OCIO, infrastructure services at CTS, and application services at DES sounds clear, there are still a few grey areas and overlapping responsibilities that need to be resolved. Some of this is already in process; for example, secure file transfer services have been moved to CTS, and HRMS development staff at CTS will transfer to DES. Still, there continues to be some confusion among agencies and state employees in the unresolved areas of overlap that needs to be sorted through and clearly communicated to all staff.

CTS is an enterprise provider of technology services. OCIO also provides enterprise-wide technology policy, strategy and direction. This means that all agencies and state employees have to continuously calibrate and understand where they can get proper direction for any given IT area — OCIO, CTS or DES. What's even more confusing is that often both CTS and DES support some services while OCIO sets the policy. So, HR and payroll is hosted by CTS and managed by DES but OCIO has been pushing hard to investigate a set of ideas. Identity services are from active directory servers run by CTS but DES personnel control the data in the HR system and they should both be taking the lead together in managing identity

### Department of Enterprise Services IT Spending — Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

in the organization. From the CIO's perspective, decision making, strategy setting and simple operational decisions are confounding and confusing, and require further work to smooth out.

## RECENT SUCCESSES

Developing efficiencies is one of the main reasons for the creation of DES. The ultimate challenge in bringing the information technology groups from five agencies together was to understand all of the systems that are now part of DES' Enterprise Technology Solutions (ETS) division, and the processes used to support them. Employees were challenged with finding efficiencies, streamlining processes and reducing the amount of duplicate applications supported. That work has allowed DES to evolve and move forward as a cohesive, well-aligned team. Here are some of DES' accomplishments to date:

- Adopted the Apptio technology business management tool to support DES-specific business needs. Also led establishment of a data-sharing agreement and determination of initial record layouts in order to provide data for all agencies to support their Apptio implementation.
  - The Time, Leave and Attendance (TLA) program is leading the statewide effort to acquire and implement an enterprise timekeeping system that can be used by state agencies. Agencies have expressed interest in this system, and are working with the TLA program to influence system design and configuration.
  - Designed and edited the Statewide Public Four-Year Dashboard, as part of the Public Centralized Higher Education Enrollment System (PCHEES) 3 project. This product will receive nationwide visibility, as it started out as "Complete to Compete," which are measures established by the National Governors' Association.
  - Modified HRMS service-level agreement with CTS to be only Infrastructure as a Services (IaaS), saving DES about \$800,000 per year in hosting fees.
  - In partnership with CTS, DES is continuing to address means to reduce the costs for HRMS.
  - Assisted 25 agencies in implementing the Employee Self-Service (ESS) Leave Tool, which has substantially reduced the manual entry of leave. The Leave Tool is an online application, accessible via a secure web portal, which allows employees to enter information from any location with internet access.
  - Trained customer service and Solutions Center employees to do basic security work in HRMS, which freed up two resources previously dedicated to HRMS security. Those FTEs were then able to take on more high-level work without adding more resources.
  - Using best practices, identified the applications that came into DES from the former agencies and assigned a functional purpose to each. Sorted and produced a list of applications that perform similar functions across the agency.
    - » As a result of this application inventory work, decommissioned 40 applications (some were completely decommissioned, and others were consolidated). This decreases the number of applications supported, but ensures those kept are robust and necessary.
    - » Consolidated 17 websites into 1 new DES internet site. Five intranet sites were consolidated into one earlier in 2012.
  - Installed guest WiFi infrastructure at 1500 Jefferson, then extended it to the GA and Insurance buildings.
  - Successfully migrated all customers to shared email service.
-

- Began the pilot for consolidating all five previous agency domains into one, including architecting and implementing a single, redundant local area network for customers on the Capitol Campus.
- Created a public cloud presence for the State of Washington to publish public-facing, anonymous access SharePoint sites. Transitioned [hr.wa.gov](http://hr.wa.gov) to the public cloud.
- Consolidated 10 help desks into one, allowing the customer to call one number for all their IT service needs.
- Consolidated database management to provide consistent, high-quality DBA support for the many applications that supported five agencies. Nearly 1,000 databases — supporting test, quality assurance, tools and production applications — are now centrally managed. Those databases are now being migrated to more current releases, many moving to virtualized servers, and beginning analysis of where duplication exists.
- Negotiated a contract amendment with SAP to provide increased capacity for reporting and ad hoc query, using Business Objects tools.
- Eliminated one of the state's middleware products, working with CTS to build a CICS web services connection, also eliminating the need to support iWay connection software. The \$12,000 annual savings was not huge, but allows staff to focus on support of IBM Websphere MQ and other modern integration approaches.
- Assisted the new director at Office of Minority and Women's Business Enterprises (OMWBE) with stabilizing their IT infrastructure and applications, and led the transition to Department of Transportation supporting their IT needs.

## RECOGNITION

Kudos to the IT team for contributing substantially to savings in IT spending for Washington state in the very first year after it was created by merging five organizations. The DES IT team has funded the entire enterprise cost of adopting Technology Business Management tools out of these savings. The CIO is an extremely valuable change agent and given that the changes caused by bringing five IT organizations together are not yet complete, it is very important to retain the CIO for at least the next couple of years into the next administration.

## OCIO RECOMMENDATIONS

- **Innovation Teams:** DES is experimenting with a concept called "Innovation Teams." One suggestion from OCIO is that membership in such a team perhaps shouldn't be a permanent role but an area where a valuable employee comes to find their next problem, finds an innovative solution, sells it and moves into that area.
- **Portfolio Management:** DES IT leaders are investigating the total number of applications inherited by DES. CTS has been decommissioning applications systematically. Forty applications have already been decommissioned, 11 are in process, and more are to follow. We recommend that DES aggressively pursue a path of modeling costs of applications, which even if done approximately, can contribute to a prioritization of applications to decommission — so DES can work on eliminating the apps that have the least value but the most resource consumption. We expect many more such applications will be decommissioned in the near future. There is interesting food for thought that emerges from this exercise in DES. If merging five agency IT teams can yield so much optimization by eliminating redundancy,

perhaps there is far more to save by systematically eliminating redundancy across all other agencies. As the applications being decommissioned are back-office support systems, an effort to move all agencies to enterprise administrative systems where possible could be an effective way to reduce redundancy without the gargantuan effort of merging all the existing systems.

- **DES should establish a cadence and communication** for the improvements and enhancement of most important and impactful applications such as AFRS, HRMS and TLA. Many stakeholders across the enterprise are not quite sure how to communicate with DES and sometimes become worried that they are not being heard. DES needs to establish governance and customer advisory mechanisms to insure customers have a mechanism to influence improvement priorities and investments. This effort is an important one that deserves the attention of the DES leadership.
- **Tracking customer needs:** DES needs to engage regularly with customers and drive resolution of customer issues. This spans the tactical — by having good service desk software and ensuring great handoffs from CTS To DES — and strategic — having senior people available to engage with accounts and act as an escalation point for issues. However, most important is the need to get rid of the backlog of requests soon by either delivering solutions, giving an acceptable timeline or enabling solutions to be purchased from elsewhere. The backlog of new feature or service requests should ideally be no more than a month long and should never be more than a few months long; and communication on the backlog should be transparent. DES should immediately implement a monthly dashboard review tracking customer, operational and budget metrics. Such a dashboard has not been put in place yet and it is essential that a large IT organization have such a continuous improvement process. DES is urged to put such a process in place as soon as possible and improve the dashboard and the tracking process over time. DES should also put in place a regular anonymous customer survey that touches all levels of the agencies it serves.
- **Disaster Recovery:** DES needs to be able to operate and continue to pay all state government employees if there is a disaster that makes all of DES's IT systems unusable for an extended period of time. DES should confirm that this can indeed be done at short notice if necessary. A simple solution of paying all employees the same as a recent paycheck should suffice.
- **Transparency:** The new, per employee rate structure and allocation proposed by DES is a major improvement and will enable agencies to focus on their work instead of being worried about fine-grained transactions driving costs when they use administrative systems. Driving transparency in IT costs in DES, coupled with the simplicity of the new allocation, should result in focus on the right things. Currently the bills from DES and CTS are complex and require a lot of effort on the part of customers to track. Hopefully, the new rate structure should make these bills much easier to understand.
- **Enterprise Issues:** User Interface and Usability of Government Web Sites: DES should aspire to provide the overall User Interface architecture for the state's external presence, including direct reviews and feedback and also provide actual help to improve the usability for websites of state agencies. This is a much broader mission than currently envisioned.
- **Move low-level infrastructure service to CTS as soon as possible:** There is a smattering of support for a variety of services that ought to belong in CTS. This includes desktop management, device management, LAN/WAN services, phone services, SCAN, mobility and wireless. All of these should be moved to CTS.

- **AFRS replacement:** We need to start plotting a systematic path for replacing AFRS and other core financial systems of the state. It is possible that we should focus on implementing a credible replacement in a small agency (such as Lottery) as the first step toward understanding how a broader replacement may work.
- **New Services:** DES needs and is building competency in database management and business intelligence as a service. Perhaps, in time (not right away), we should examine whether DES can be the organization that provides database management services and business intelligence for the enterprise. At this time, this is not realistic for the upcoming biennium.
- **Security:** Software systems for new employees and termination/transfer of employees: Currently, the important data stores that track employees and their rights are managed in an ad-hoc and distributed fashion. Active Directory often has leftover accounts that remain after an employee has moved from one organization to another. These leftover accounts present a serious security risk. People are given computer accounts and are not accounted for as people working in the state because they may be contractors. Overall, identity management should be made available to agencies via APIs, web sites or even call centers eventually, and these APIs should make updates in all the enterprise-wide systems that provide access and services to employees. The current structure has a lot of errors and can result in security issues as well as poor services.



# DEPARTMENT OF SOCIAL AND HEALTH SERVICES (DSHS)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### ORGANIZATIONAL CONTEXT

DSHS has a strong and very busy IT team with huge responsibilities including managing IT for more than 15,000 employees, more than one million citizens among the users of these systems. There are dozens of field offices and a wide variety of software systems.

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**IT \$: \$132.7m**  
**IT FTEs: 548.0 FTEs**  
**IT as % of Agency FTEs: 3.5%**

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DSHS has also been a major source of IT talent for the rest of the state. CIOs of many agencies and many senior IT leaders in other agencies have worked in DSHS as part of their state government career. However, there is a worry that DSHS may be losing talent to other state agencies faster than it can hire talent. Compensation issues are a major factor here and this could be a long-term issue for DSHS IT.

### RECENT TECHNOLOGY SUCCESSES

#### Washington Connection

The Washington Connection project is a collaborative effort between DSHS and partnering organizations including the Bill & Melinda Gates Foundation, Statewide Poverty Action Network, The Boeing Company Global Corporate Citizenship, Associated Ministries, the Governor's Office, and the former Department of Information Services, as well as representatives from cities and counties, tribal agencies, and the Legislature.

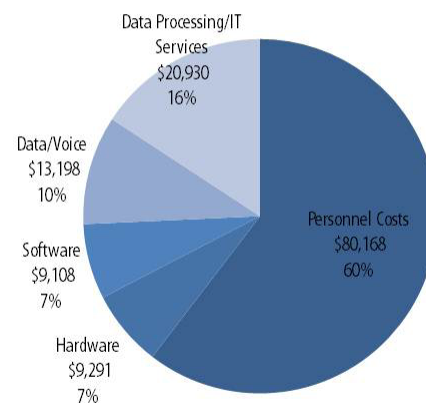
The portal assists low-income families and individuals to access, screen for eligibility, and apply for a variety of vital services and benefits that help them achieve self-sufficiency and move out of poverty.

Key portal features include:

- Eligibility screening that provides information about services.
- Online single-entry application and digital signature (self-service and assisted-service) for DSHS services.
- Client Benefit Account for service recipients to securely check application status, monitor benefits received, and report changes on circumstances.
- Information about other benefits and services provided by local, state, tribal, and federal programs that require different application processes.
- Partner Account for community partners to assist clients in completing their application process and

### Department of Health & Social Services

#### IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)



monitoring status.

- Reporting data and tracking portal usage that will inform outreach strategies.
- Online resources, web-based tutorial and Help Links for user support and orientation.
- Feedback Tool through which users can provide comment on usability of the portal.

The project was funded in large part through grants from the Bill & Melinda Gates Foundation, the Casey Foundation, the Raikes Foundation, the Women's Funding Alliance, and The Boeing Company Charitable Trust. The project will continue fundraising efforts to support future system enhancements.

### PRISM Predictive Modeling

The development of the PRISM predictive modeling application at DSHS illustrates the potential for cross-agency collaboration and the use of modern business intelligence solutions to improve health outcomes for high-risk Medicaid populations, and shows that sophisticated, high-value software applications can emerge from a state government environment. PRISM is a secure web application designed to support care management for high-risk, chronically ill Medicaid clients by (1) identifying those most in need of intervention based on risk scores developed through predictive modeling, and (2) by giving health care providers critical, timely information integrated from medical, social service, behavioral health, and long term care data systems.

The DSHS Research and Data Analysis Division (RDA) came together with extensive experience linking state agency databases, conducting predictive modeling, and developing secure web applications, headed by health economist David Mancuso and PRISM application architect Chad Zhu. Recognizing the potential strength of the internal team, the Health Care Authority and the Aging and Disability Services Administration contracted with RDA to develop a new application — PRISM — to replace the commercial tool. The Mental Health Transformation Grant administered through the Governor's Office of Financial Management also provided critical additional start-up funding.

After a six-month development phase, piloting of the PRISM application began in March 2009. Today PRISM serves over 600 users and over 100 distinct client population groups, and continues to evolve to meet changing program needs. The PRISM user base includes staff from all Medicaid-contract health plans, Regional Support Networks, and Area Agencies on Aging, as well as internal Health Care Authority and DSHS staff. The PRISM application is being used for care coordination in a wide range of populations, including children in foster care, adults with physical health conditions and co-occurring behavioral health needs, and elders with major functional limitations and complex health conditions receiving long-term services and supports.

PRISM's more holistic view of a patient's health service experience was made possible by prior DSHS and Health Care Authority investments in cross-system data integration efforts. A major challenge in this area is that different state information systems use different patient identifiers. Prior agency support for data integration meant that timely and well-organized multi-system service and assessment data were available for linkage to medical service data through sophisticated processes that were already well-established. The transition to the ProviderOne system has further simplified data integration within the PRISM application by providing a more unified source for medical and behavioral health fee-for-service claims and encounter data.

The challenges to maintaining such a sophisticated IT application internally include dependency on key staff to maintain the application and risk of loss of funding for internal analytical infrastructure in difficult economic times. Attracting and retaining state staff with the skills to develop and maintain applications like PRISM requires greater flexibility in compensation structures to allow the state to better compete for talent in the labor market. In addition, more flexibility in IT acquisition processes may be required to support agile development of such complex “big data” applications.

### *The Future*

Use of the PRISM application is at the heart of several of the state’s highest profile health care initiatives. For example, the state just entered into a Memorandum of Understanding with the federal Centers for Medicare & Medicaid Services (CMS) to move ahead with the first phase of HealthPathWashington — an initiative aimed at integrating patient-centered care in health homes for many of the state’s highest-need clients, including those who are dually enrolled in Medicare and Medicaid. This initiative grows out of the PRISM-supported Chronic Care Management pilots that have shown promise in improving health outcomes and reducing costs for high-risk Medicaid patients. Through PRISM, Washington will be the first state to make timely, integrated Medicare and Medicaid data available to clinicians and care managers to help to guide and inform health care interventions.

The state’s agreement with CMS offers an historic opportunity for Washington to receive performance payments if quality targets and Medicare cost savings are achieved. Through these performance payments, the PRISM-supported HealthPathWashington initiative is projected to save the state \$13.6 million over the next five years. Furthermore, the performance payment formula creates incentives for the state to develop additional initiatives focused on improving quality of care and reducing avoidable costs for Medicare-Medicaid “dual eligibles.” One high-opportunity strategy would be to use PRISM to support care management interventions targeted to reducing hospital readmissions for Medicare-Medicaid dual eligibles residing in nursing facilities.

PRISM-like business intelligence technologies have the potential to support service delivery strategies beyond the health care arena. The medical and behavioral health data essential to support care management of high-risk Medicaid clients also represents critical information to inform strategies to promote outcomes such as child safety and family economic self-sufficiency. Outcomes in these areas are likely to be amenable to predictive modeling in ways that could effectively inform the delivery of social services. Recognizing the potential opportunity in the area of achieving family economic self-sufficiency, the DSHS Economic Services Administration is supporting the development and piloting of a new PRISM-like application to support case management of families receiving cash assistance (TANF). Much remains to be learned about how to best design an application to support the needs of TANF case managers and the families they serve. And much remains to be learned about the potential impact on family outcomes of case management strategies informed by PRISM-like predictive modeling and data integration technology. However, based on the experience to date with the use of PRISM in medical and behavioral health settings, the potential return on this investment is promising.

### **DSHS Emergency Geospatial Information System**

DSHS is the lead state agency to special needs populations statewide. This calls for efficient and innovative emergency planning and response, with a focus on planning for those people who have serious health conditions or other circumstances impeding their mobility, comprehension, or independence during a disaster.

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In an emergency, the DSHS Emergency Geospatial Information System (EmGIS) provides maps and summary information to decision makers. Developed over the past 2 years, EmGIS now makes it possible for decision makers to evaluate the need for additional assistance among its clients within minutes. Initial funding was provided by the federal Department of Homeland Security, Washington State Department of Health, Centers for Disease Control and Prevention, and DSHS.

### **One Department Data Repository**

The One Department Data Repository (1DDR) is an enterprise solution to storing, accessing and displaying performance measures and budget drivers. The solution has decreased staff time to load, access and create reports by more than 75 percent and increased user flexibility to meet individual needs. The solution was built with available resources at a significantly lower cost than off the shelf solutions.

### **Pathways to Employment**

The Pathways to Employment (P2E) website helps Washingtonians with disabilities to explore ways to balance benefits and work.

The website includes information on health coverage, benefits and employment to help people with disabilities to:

- Make informed decisions on work by using a benefits estimator
- Use an online resume builder
- Watch video success stories
- Access an “employer proximity locator,” to get information on businesses near his or her home.

This site is maintained at a cost approximately 88 percent less than states that contracted for maintenance of similar work. The site was created in-house for less than a contractor built solution is estimated to have cost. Because the site was built with state funds, DSHS has been able to share programming logic with other localities.

### **Other success includes:**

- Complete automation of a new risk assessment methodology within Juvenile Rehabilitation Administration will allow staff a bit more time to work with clients, and more importantly, better protect the public better by minimizing placement of high risk offenders in the community.
- Implemented core videoconferencing infrastructure and used approximately \$2 million of American Recovery and Reinvestment Act funds to significantly increase network performance via infrastructure upgrades and significantly increase distance communication technologies such as video conferencing. The solution provided increased long-distance communication and training opportunities, while reducing travel and staff expenses.
- Completed migration to the enterprise Shared Messaging Service and retired the DSHS messaging service.
- Implemented a Performance Management Solution within DSHS replacing a paper process. The contract for the solution allows for follow-on use by other agencies.
- The Division of Vocational Rehabilitation continues to use creative ways to provide services to offices to increase accessibility for staff and clients. For instance, Comcast broadband and Qwest DSL service

are still not available at Tacoma DVR office to allow installation of the Sorenson video phone system for a hearing-impaired staff member. We are successfully utilizing the Verizon 4G LTE air card (with a static IP address) and Cradlepoint router to provide stable internet connection to the Sorenson video system. That saved DVR \$30,000 for the cost of construction to bring the broadband service to the building.

- The FamLink application currently supports Child Protective Services/Child Welfare Services and is being expanded to include similar critical incident intakes from the Aging and Disability Services Administration (ADSA). This is a first step in a phased approach to leverage an existing system across programs to support similar business functions. This work also allows for the retirement of two systems used within ADSA.
- Over 20 million pages of archival records from the Children's Administration were imaged over two years with work completing in late 2012. With the completion of the imaging of archived records, attention has turned to imaging more recently closed and open files.

## OPPORTUNITIES

Each of the four big programs in DSHS has its own IT staff. Several agencies such as ESD and DOH have seen the benefits of centralizing IT staff in one organization. It may well be that DSHS is so big that centralizing all IT is going to be too big a step to take in a hurry. However, there are quick and easy benefits to be obtained by centralizing IT infrastructure teams in the Centralized (ISSD) IT team. The areas that are obvious candidates to consolidate/centralize across all DSHS are:

- Server Hosting, Monitoring, Patching etc.
- Networking Services in headquarters (Lacey, Olympia, Tumwater)
- Phone/telecom services in headquarters
- Storage (including SAN) services
- Maintenance and enhancement of data center space and lab space
- Desktop services in headquarters

It is important that the centralized IT team in DSHS should have clear and transparent benchmarks for service delivery and budgets that are reviewed every month so that there is a very easy way to tell if the services provided after consolidation are satisfactory. Such consolidation should be done very carefully, taking into account the emotions of people who are impacted as well as the need to provide continuity. Having fragmented infrastructure teams is resulting in lowered efficiency but more importantly, to unacceptably low investments in basics such as disaster recovery and security. We strongly urge DSHS to move all infrastructure responsibilities to the one centralized team and hold that team accountable to greater efficiency as well as much higher nimbleness so that customers actually find it easier and cheaper to get their applications needs met.

There are other areas where OCIO can suggest looking at opportunities for setting up centers of excellence that span programs and that may eventually yield benefits via consolidation. For example:

- There could be an effort focused on analyzing, incrementally improving and standardizing the IT infrastructure of the field offices so they provide great services and potentially lower costs. Right now it appears that, due to budget cuts and the complexity of having several large programs and lots of field

offices, there isn't such a systematic effort to improve field offices in DSHS.

- Efforts such as PRISM should be encouraged and high performing application teams should be given more flexibility especially when they have proven their ability to drive results and are tech savvy. The DSHS IT team is already providing resources but perhaps it could provide more flexibility to enable PRISM to move faster.
- There doesn't seem to be any reason why DSHS should not aspire to much higher rates of virtualization. Most times doing this saves money and increases nimbleness.

There are several marquee applications used by each of the programs. Here are some suggestions for a few of these applications:

- DSHS is in the process of rewriting the logic in ACES and its supporting applications one step at a time. This means that it is important to have the maintenance contract for the legacy COBOL system cost less as the new system comes online. The saved dollars can be utilized to maintain the new modules as well as to continue and finish modernization. This is important since there is currently no funding earmarked for the remaining four phases of modernization
- It is important for the long-term maintenance cost of Famlink to be predictable, and DSHS should consider having a long term maintenance contract with a vendor just as with ACES
- **Support Enforcement Management System (SEMS):** SEMS is the system used by the department for the administration of the state's child support program. While the legacy system was designed in COBOL, the agency is making steady progress in reducing the amount of COBOL code. The agency should also look for ways to reduce the cost of the mainframe UNISYS platform by leveraging purchased services for mainframe storage.
- **EMR for Hospitals run by DSHS:** These hospitals operate using paper and are in serious need of modernization.
- **Document Management and E-Discovery:** DSHS gets a lot of paper from its various programs and managing that paper for efficient operations as well as responding to public records requests and litigation requests for information are a key challenge for DSHS as it is for other agencies.

DSHS runs many important services that could be crippled if the right targeted disaster or security breach takes out its IT systems. There needs to be serious prioritization for investing in disaster recovery solutions for DSHS as well as security.

The agency is spending in the millions of dollars for networking and telecommunication services for field offices. It is important that DSHS and CTS work on optimizing spending for field offices. Savings could be substantial and there could also be increased bandwidth and better phone services and networking bandwidth for field offices without increased cost.

A major undertaking of DSHS in 2013 is providing eligibility and other technology services for the **Health Benefit Exchange**. The OCIO believes that the HBE is an important and complex project and we have outlined the potential risks in a section dedicated to the HBE.

## DEPARTMENT OF EARLY LEARNING (DEL)

### CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

#### ORGANIZATIONAL CONTEXT

The Department of Early learning has been growing and launching new efforts as funding in this area increases. Substantial amounts of the department's IT spend goes to DSHS and CTS as chargebacks.

DEL would gain immensely from longitudinal data to help policymakers and DEL executives evaluate the efficacy of these programs. However, there has been little by way of results yet in the longitudinal study efforts that have been funded and launched, including the P20 effort.

DEL is also interested in proposing an electronic payments system as a way of combating fraud. Such an effort should probably be done one step at a time, instead of trying to switch to such a system all at once. This will allow DEL to systematically build out the solution over a period of time while demonstrating actual value at each stage. It is important to understand how various kinds of electronic benefit payment systems would work statewide. For example, the Department of Health is running the WIC program and DSHS has food stamps — will

these clients now be expected to carry three cards from State government? DEL, DOH and DSHS should coordinate to make that possible by simply designing the graphics on the card to reflect its use so that a user with more than one card can tell at a glance which card should be used for what purpose.

#### OPPORTUNITIES

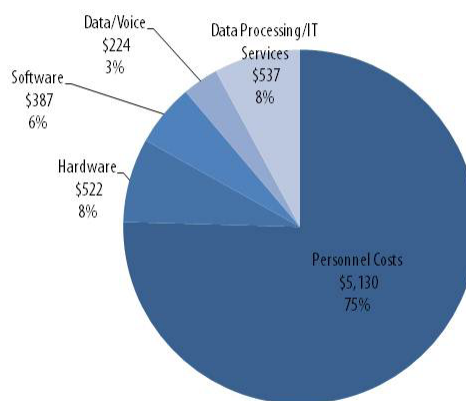
DEL is a fairly new agency and it may benefit substantially from putting in place a dashboard that highlights operational performance metrics and budget/spending metrics aligned by application and strategy area and reviewing it periodically. The CIO probably should look at such a dashboard, identify areas for improvement and then verify that these efforts indeed resulted in improvements. The director should look at such a dashboard, including the status of projects that are in flight periodically as well. Putting such a practice in place will probably help the agency focus on incremental maintenance and operations improvements even after the current management has moved on.

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**IT \$: \$6.8m**  
**IT FTEs: 17.1 FTEs**  
**IT as % of Agency FTEs: 7.2%**

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#### Department of Early Learning IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)



## OCIO RECOMMENDATIONS

- DEL needs to understand how to train people who are not computer savvy to be able to use its online solutions. In some instances, it may make sense to create a smartphone application instead of depending on people to use an actual PC to reach an application on the web.
- DEL intends to invest in new helpdesk software. DEL should adopt the same SaaS solution that CTS and WDFW intend to adopt since we would like the entire state to move to a common system over time.
- The ratio of contractors to FTEs is high in DEL due to their rapid growth. The department's IT leadership should systematically look at areas that are long-lasting investment areas and switch from contractors to FTEs and save dollars on the agency's IT budget.



# HEALTH CARE AUTHORITY (HCA)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### ORGANIZATIONAL CONTEXT

HCA today tracks IT spending mostly by AFRS account coding and there is a need to have a more robust way to track IT spending by IT towers, applications or program areas. OCIO requests that HCA begins to do this as well as identify metrics that reflect agency priorities and have periodic discussions to look for operational improvements and IT spending improvements.

HCA has stated it looks forward to doing this through more meaningful portfolio management and making good use of the technology business management tool. However OCIO is worried that HCA resource constraints will delay its timely implementation. This should be a priority for the agency.

Executive leadership of HCA is encouraged to continue to look at how IT spending reflects the priorities of the agency.

ProviderOne is a big part of spending for HCA and it needs to be the primary focus for potential cost savings. It is important that HCA continue to categorize and analyze costs and effectively drive them down.

The request is that HCA give consideration to bidding this out competitively. The contract and the architecture have been positioned to allow for replacement of subcomponents and the OCIO recommends that any opportunity to bid these out be considered. This will help drive down costs, get the best business value, and minimize the risk of being at the mercy of a single vendor.

### PROJECT SPOTLIGHTS

ProviderOne – Phase 2

**Original schedule:** December 2012

**Revised schedule:** December 2013

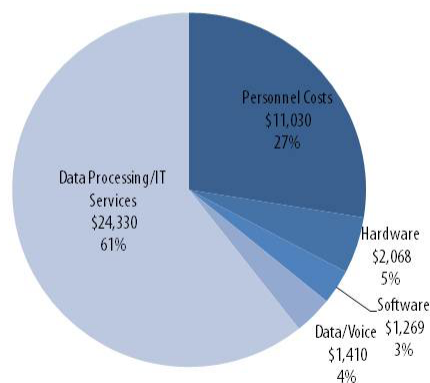
BUDGET CATEGORY	ORIGINAL BUDGET	REVISED BUDGET
Staff (salaries & benefits)	\$11,900,000	\$9,240,000
Contracted services	23,100,000	15,060,000
Hardware	0	0
Software	0	0

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**IT \$: \$40.1m**  
**IT FTEs: 44.0 FTEs**  
**IT as % of Agency FTEs: 4.5%**

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### Health Care Authority IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

BUDGET CATEGORY	ORIGINAL BUDGET	REVISED BUDGET
Travel	0	0
Training	0	0
Other	2,200,000	0
TOTAL (including state match)	\$37,200,000	\$24,300,000
State Match	7,100,000	2,430,000

ProviderOne Phase 2 provides a major enhancement to ProviderOne, Washington's federally certified Medicaid Management Information System by migrating a significant portion of payment processing from the legacy Social Service Payment System (SSPS) to ProviderOne. The transition from SSPS to ProviderOne serves two major provider groups within DSHS: 3,200 residential facilities/home care agencies, and 30,000 individual providers represented by Service Employees International Union (SEIU) #775.

Once complete, Phase 2 will accomplish the following:

- Consolidate Medicaid services into a single repository to include comprehensive claims adjudication edits, data, reporting, and decision support tools
- Enhance payment accuracy and compliance for Medicaid expenditures
- Address the Office of the Inspector General audit findings
- Provide a modern payment system for Service Employees International Union (SEIU) #775 members

The original intent was to begin work on Phase 2 shortly after Phase 1 went into full production, which occurred in May 2010. However, the Legislature did not provide funding for Phase 2 until March 2012 with a stipulation that the project complete by December 2013.

Although the project and its associated original budget for Phase 2 was approved in March 2011, the Legislature did not provide funding to continue Phase 2 at that time. The Revised Budget is the amount now requested by the Health Care Authority (HCA) to implement Phase 2 using a different and less expensive approach.

Phase 2 will support the two separate provider groups via two separate implementations. The vendor that developed Phase 1 will leverage core functions from Phase 1 to develop Phase 2 for providers paid by 1099s, residential facilities and home care agencies. The 30,000 individual providers represented by SEIU #775 and paid via W-2s will be supported via a contract with a Fiscal/Employer Agent vendor. The W-2 data will be sent to ProviderOne for federal reporting and payment integrity purposes.

## OCIO ASSESSMENT OF PROJECT STATUS

This project has taken on additional risk primarily due to the period of time when it did not have funding from the Legislature. This caused the vendor to remove staffing that had been used for Phase 1, and significantly reduced the time available to get Phase 2 into production.

Although Phase 2 is now funded, the funding and schedule included in the budget bill has caused HCA to alter its initial approach of having the Phase 1 vendor develop all of Phase 2. The use of a Fiscal/

Employer Agent to manage the W-2 payments mitigates some of this risk, but HCA has to work through their collective bargaining agreements to support Phase 2 W-2 payments in this manner. This has also caused some delay in the schedule.

Finally, the schedule delay caused by the temporary lack of funding means the project will not complete in the 2011-13 biennium. Therefore, HCA has submitted a budget request to move some of the funding from 11-13 to the 13-15 biennium.

### How Project Advances the Current IT Strategic Plan

Phase 2 will make it easier for the providers to interact with state government. It will give them more information and ensure they are paid sooner.

## HEALTH BENEFITS EXCHANGE

The Health Benefit Exchange (HBE) is a major undertaking: It is required by federal statute to “go live” with the state’s no later than October 1, 2013. Missing this deadline could result in the loss of large amounts of federal dollars, and, more importantly, could impact the health and health care coverage of hundreds of thousands of Washingtonians. In order to provide the greatest opportunity for success in its mission, the HBE has hired a CIO, procured a third-party consultant to provide quality assurance, and has hired another vendor (Deloitte) to manage and implement the project in Washington.

While the team is trying hard and keeping a positive can-do attitude, they are facing the non-trivial possibility that one of two things can happen:

- They proceed at a more realistic pace, miss the deadline, and the state loses federal grant money and there is a loss of health care coverage and access for hundreds of thousands of Washingtonians.
- They focus on the deadline rather than quality, greatly increasing the risk that the system will be implemented with major flaws that could have bad results.

In addition to the significant risk posed by the October 1, 2013 deadline for unveiling the health plans available to Washington citizens so they can make their choice on January 1st 2014, other risks to the project are emerging now that the HBE is getting its organization in place. The three that seem to be the most significant are:

- **Fragmented Governance:** This project requires active participation and cooperation of DSHS and HCA, the Office of the Insurance Commissioner (an independently elected official), and HBE (a non-governmental board). No single entity has clear authority to make difficult decisions that span multiple agencies. Given the tight timelines, prompt and clear decision-making is critical to the project’s success. In all, more than 10 entities have to deliver for the success of this project: HBE, miscellaneous HBE contractors, Deloitte, eHealth, Key Bank, DSHS, IBM, Insurance Commissioner, NAIC, feds (and some fed contractor), HCA, CNSI, TBD contractor for customer support tools. Toward the end of 2012, governance was put in place at the agency director and the CIO levels to address this issue along with participation from the Governor’s policy office. The incoming administration should support and buttress this governance.
- **Unclear policy direction/requirements:** Many stakeholders (including legislators) rightfully demand an active voice in what should and should not be in the scope of the project. However, there is no firm deadline for these policy decisions to be finalized and a suggestion of the need for such a deadline is not

always met with a positive response. If the HBE cannot lock down the system requirements fairly soon, it becomes very hard to meet the statutory deadlines and ensure that the exchange is rolled out without any problems

- **Technology Leadership:** A complex project like this one is unique in its demands. We do not have enough experience on the leadership team for having previously delivered on such a complex and time-critical software development project. The biggest area where we believe there is a gap is the experience of having built a software system that spans so many different entities that are all delivering code at the same time.

## OCIO RECOMMENDATIONS

- One solution (but not necessarily sufficient in itself to assure success) is to convince Congress to provide flexibility around the October 1, 2013, deadline. Given that this date is baked into the federal Affordable Care Act, however, it is highly unlikely we'll see such a change in the near future.

Without a change in the deadline, there are a few other actions that could help mitigate the risks we currently face:

- **Maintain a finely tuned and decisive governance structure** that has Governor/chief of staff, the Insurance Commissioner, and the HBE at the top. This group should ensure that project risks (both policy and technology) and critical issues are raised and dealt with as expeditiously as possible.
- **Hire a highly skilled, experienced project manager** to staff the triumvirate governing entity. This person's primary responsibility would be to identify, track, monitor and elevate issues, and problems to make sure that all issues are being identified and resolved as quickly as possible. This person should be highly respected in government and should be ideally be someone as senior as a recent deputy director with a reputation for execution excellence and who spends all their time focused on the success of the overall project
- **Help the Health Exchange Board focus on a deadline for finalizing policy decisions:** We cannot have a deadline for the implementation of the exchange without a deadline for finalizing requirements, i.e. a deadline for ending the policy debate for version 1.0.
- **Enlist the help of IT-focused legislators to help convince other legislators to stop the policy churn so that the HBE can execute.**

The incoming administration has been briefed about the challenges and risks of executing on this project. If the risks are properly handled, this is a tractable effort but there is not much time or resource to waste.

# DEPARTMENT OF HEALTH (DOH)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### RECOGNITION

The Department of Health has invested well in infrastructure in the past few years and hence has a good disaster recovery program, good security and a well-run data center with high rates of virtualization. DOH has also taken the difficult step of consolidating IT teams from several programs into one centralized IT team. The DOH IT team is recognized as being an integral part of the business.

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**IT \$: \$21.0m**  
**IT FTEs: 169.5 FTEs**  
**IT as % of Agency FTEs: 11.4%**

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### ORGANIZATIONAL CONTEXT

DOH brought about a culture shift that consolidated IT in one organization from across multiple programs this past biennium. The way this change was brought about is worth emulating in a few other agencies that have not yet made such a transition. DOH initially kept its program-focused IT groups in separate teams and now, after a year or more of working together in one IT team, they are about to move to more functional groups .

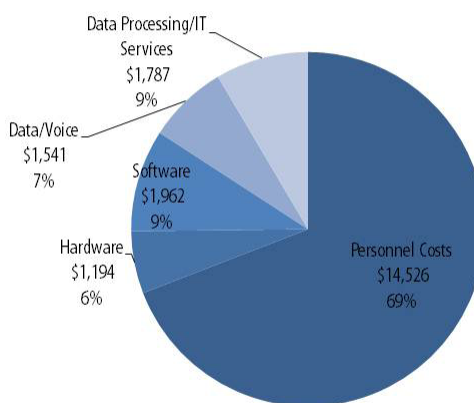
The department's IT is disciplined and cohesive and the close relationship between the director and CIO is a great model for state agencies. DOH considers IT and the CIO as being a strategic part of its organization and a close working relationship between the CIO and the director enables the agency to think about technology strategy actively and have it be optimized for business goals.

DOH's approach to governance mirrors similar approaches that have been put in place successfully at other agencies. Senior program/business leaders all help to prioritize the long list of work items, and doing it by consensus naturally eliminates conflict that would have arisen if IT had done the prioritization on its own.

A challenge for DOH has been their success as a national leader in proposing new approaches to public health which result in a substantial number of federal grants that pay for the creation of software systems but not the M&O. When the project is finally deployed and the grant ends, DOH needs M&O funding from the state, and that hasn't always been forthcoming.

DOH will transition from having application personnel in IT dedicated to programs to one where programs "buy" services from IT. This transition is a good example of how an agency like Ecology (for example) can step through such a transition.

**Department of Health**  
**IT Spending – Dollars in Thousands**



Source: 2012 IT Portfolio Data (submitted by agencies)

DOH IT would like to take advantage of our technology business management tool's bill of IT functionality to generate bills for program areas. DOH has 25 or more different funding sources and optimizing this spending can sometimes be a challenge. Modeling the color of money in the TBM tool may help in this area

DOH does not currently track time dedicated by its personnel to various tasks for all its personnel, but has decided to include all IT personnel so they can determine a more accurate cost of IT for the agency and the cost of the applications in their portfolio. However, OCIO encourages DOH to start analyzing its costs using approximated (self-reported approximations) guesses of where people are spending time. DOH has also not necessarily been coding all its IT expenditures consistently between all divisions within the agency, but the agency intends to address this in the next biennium through the IT consolidation and new IT funding model.

## OPPORTUNITIES

- DOH should look for ways to save on the number of people dedicated to each program as they move into a functional organization. This should help fund some of the needs that DOH has not been funded for in the past.

## DEPARTMENT OF REVENUE (DOR)

### CIO'S CONVERSATIONS, OBSERVATIONS AND RECOMMENDATION

#### RECOGNITION

The Department of Revenue has driven improvements in several processes led by IT that have resulted in substantial savings. For example, the number of staff members who were involved in imaging fell from 34 to six, and the number of tax returns that had an error that resulted in a bill to taxpayers fell from 55 percent to 35 percent since FY 2009 as a result of the implementation of e-file and more taxpayers filing electronically.

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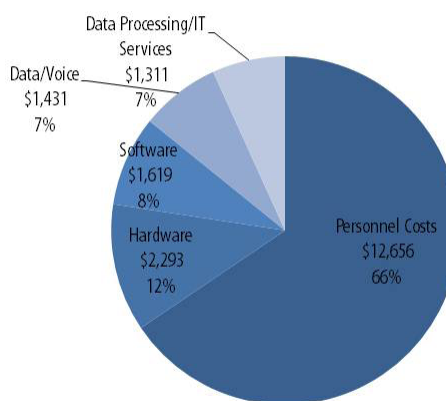
**IT \$: \$19.3 m**  
**IT FTEs: 145.5 FTEs**  
**IT as % of Agency FTEs: 13.1%**

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#### ORGANIZATIONAL CONTEXT

DOR runs an impressive operation that collects over \$17 billion in state and local revenues each year from almost half a million Washington businesses. They process over 500,000 business licenses and renewals every year. Revenue collections and the number of businesses have more than doubled since the mid-1990s with minimal growth in staffing, including IT FTEs and hardly any use of contractors. DOR has invested in IT over the years and IT has been an integral part of its operations in order to achieve and maintain these efficiencies.

**Department of Revenue**  
**IT Spending – Dollars in Thousands**



Source: 2012 IT Portfolio Data (submitted by agencies)

The DOR Information Services (IS) team is mature and is a model for good IT practices, including having a good operational dashboard, a great governance process that prioritizes projects with business input, systematic tracking of what time is spent by staff on maintenance as opposed to new development, a systematic approach to infrastructure and application management, established priorities that are deliberate and relate to the department's strategic plan and a thoughtful approach to planning for the long-term future. This has all been put in place over the last several years and can be attributed to the leadership of the agency and the IS team, and continuity will be key since DOR is about to enter a new phase of building out and replacing the aging, inflexible applications and systems in place now.

The DOR IS team is on the path to creating a view into its application portfolio and its spending by IT tower that will enable it to identify its costs to operate and consider those costs versus the benefit received when making decisions on the future of the applications, including enhancements, replacement, integration, or sun-setting.



It is difficult for DOR to find efficiencies that do not impact revenue collections since approximately 85 percent of the agency's staff is revenue-producing. In addition, DOR has already made substantial reductions to its non-revenue producing areas over the last several years in order to preserve revenue collections.

DOR IT has focused its resources on handling various changes and improvements and on maintenance and operations for its existing services.

## OPPORTUNITIES

The DOR IT team has recently begun optimizing its networking connections to its field offices and we urge them to be thorough about looking at prices and alternatives to get the best prices along with increased bandwidth.

DOR has higher costs for its mainframe usage and we urge the agency to work with others — such as Consolidated Technology Services, Department of Retirement Systems and the Department of Corrections — to understand how those agencies have been able to reduce mainframe expenditures. Much of DOR's core systems are built on 50+ year-old technologies such as COBOL. It is becoming quite hard to modify or improve these systems and at the same time there is a great demand for DOR to be flexible in changing tax administration rules as legislative policy shifts. DOR would like to begin on the journey of replacing its very old systems. Recognizing this will be a multi-biennial effort, the OCIO feels that the proposal should be tied to end-user improvements where functional pieces of the system replacement effort can be measured and delivered within the biennial funding cycle so that funding challenges can be overcome. DOR should be complimented for the phased-in/incremental approach that has already been outlined in their legacy system replacement decision package.

DOR needs to invest more in security. As it takes more services online and as security threats increase, this will be critical in protecting confidential taxpayer data.

With respect to disaster recovery, DOR collects more than 90 percent of General Funds for the state and even a localized disaster may make it hard or impossible to collect taxes.

DOR may want to explore opportunities to further drive electronic revenue collection by making it mandatory that all taxpayers submit their tax return online. This may be hard to pull off as a policy immediately but it may be inevitable over time.

### Modernization of Tax Collection Systems

DOR has a tax collection system that has been optimized for cost over the past two decades. It now collects more than twice as much money from twice as many businesses with the same IT staffing that it had in the mid-1990s. However, the COBOL technology is old and brittle and needs updating to enable DOR to be more nimble and responsive to policy needs, to find fraud more easily and to be more responsive to customer/business needs. The agency intends to do this one phase at a time, and the funding for the first phase is presented as a decision package that the OCIO supports.

## B&O Tax Collection

Businesses have stated that it is onerous and confusing for them to have to pay B&O taxes separately to each city in which they operate. This feedback led Governor Gregoire to sponsor legislation in the 2012 session. The legislation led to discussions about whether the State should take over the collection of these taxes. Larger cities such as Seattle, Tacoma, and Bellevue were concerned that approach would cede too much control to the State. A substantial fraction of the revenues for these cities comes from B&O taxes, and setting those tax rates is a policy area over which they did not want to lose control. The legislation was not passed and now there is an effort designed to provide businesses one local license and tax portal that allows businesses to find out how much they owe and to pay it directly to the cities.

After reviewing and analyzing the cities' plans, from the OCIO perspective, we believe that such an approach has potential problems, such as:

- Each of the cities will individually want control and the same trust issues between the state and the cities will also apply between the cities.
- Smaller cities will not be able to bring funding to the table and as a result not be able to participate.
- The actual end-to-end accounts and payments need to be handled by a separate entity and the current proposal is that the money is paid directly to each city. Technologically, this means the portal will also need to handle partial payments, refunds, disputes, late payment penalties etc. and reconcile those with the status of the account.
- The Department of Revenue already collects sales taxes for all local jurisdictions across the state. In addition, the Business Licensing Service (BLS) partners with 55 cities to collect local license fees. In effect, Seattle and other city taxpayers will pay for building and administering a duplicate tax system

We believe that to achieve real simplification for businesses, the state must:

- Upgrade DOR tax administration and collection to be more flexible.
- Have each city contract with DOR to provide B&O tax collection services and these contracts can have penalties if DOR doesn't respond to a change in rates.
- Try out DOR one city at a time starting from small cities and then eventually move to doing business and occupation tax administration for larger cities.

We believe that the city portal project is a high risk project given its structure and we encourage the Legislature and the new administration to explore how DOR can serve smaller cities that are not and will never be part of this multi-city project. This way DOR can start learning and providing services in this area and be ready to take over the multi-city project if that eventually happens.

# LABOR AND INDUSTRIES (L&I)

## CIO'S CONVERSATIONS, OBSERVATIONS AND RECOMMENDATION

### RECENT TECHNOLOGY SUCCESSES

#### Wi-Fi Project

L&I successfully deployed a wireless network for use by its guests and staff. Authenticated wireless devices are granted access to the L&I network and connected to their allocated applications, data and files. The project provided a valuable new service to the agency's visitors and guests and solves business requirements for its mobile workforce. The L&I design supports the future state strategies for WiFi and is being shared with other agencies interested in a wireless solution.

#### E-Government

For the past two years, L&I has worked to establish a vision, strategies, and an implementation plan for the agency's e-government presence. This vision creates a single, personalized customer experience for those using the agency's online services and information for external customers (businesses, workers, medical and vocational providers, contractors and tradespeople), integrating over 35 external-facing services. L&I has begun tackling strategic issues such as agency-wide governance and prioritization as it moves from stove-piped services to integrated services for our customers. The agency's e-government effort has already made substantial progress in helping deliver successful efforts this biennium and integrate online services for its customers. Next biennium L&I will continue with its plan, further integrating information and services so customers can log-in once and see all information, messages, and services that are relevant to them.

#### My Secure L&I (SEAP)

My Secure L&I created a new, more streamlined process to sign up for and access the agency's secure online services. By implementing the Secure Access Washington-Enabled Agency Portal (SEAP) capability offered by CTS, the agency was able to dramatically shorten the sign-up process for its external customers and ensure they are signed up for all of the services they may need. L&I was the first agency to enable the complete functionality offered by CTS and has been assisting other agencies in implementing SEAP, including the Departments of Enterprise Services, Licensing, Ecology, Revenue and Social and Health Services.

#### Outbound Correspondence

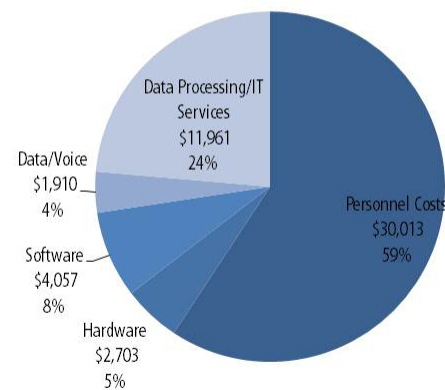
The agency saved \$250,000 dollars by using the Outbound Correspondence System and the agency's high-speed printers for generating and printing the Employer's Quarterly Report. Previously the agency

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**IT \$: \$50.6 m**  
**IT FTEs: 236.0 FTEs**  
**IT as % of Agency FTEs: 8.9%**

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### Labor & Industries IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

contracted with CTS (formerly, DIS) for this service. The agency has seen at least a three-fold return on investment. Also, by switching to a multi-year maintenance agreement with EMC/Document Sciences, the agency saved approximately \$6,000 over the lifetime of the agreement.

#### **Software Licenses (Dynatrace)**

With the purchase of an application monitoring tool, L&I will save \$40,500 off the original quote of \$103,500 — a 39 percent discount. With Compuware's Dynatrace, the agency can optimize performance with full transaction visibility from a virtual user's click to a line of code, and resolve problems quickly across all data center tiers, applications and transactions. Dynatrace's PurePath Technology provides the most accurate, in-depth view of application behavior out of any of the monitoring tools L&I currently owns. The initial implementation of Dynatrace agents is intended to find bottlenecks and chokepoints within the ECS application.

#### **Attachment process**

The Administrative Efficiencies project replaced a manual attachment process for claims correspondence with an electronic process. This saved 480 staff hours monthly (3 FTEs), and it simplified processing of the mail. Non-staff savings are estimated at \$6,700/month.

#### **Software licenses (Silk Performer)**

On a recent purchase of a tool, Silk Performer, L&I saved \$92,500 off the base price of \$100,000 — a 92.5 percent discount. Silk Performer is a tool used for performance testing and analysis. The tool allows for scripting of virtual user transactions so that repeatability and consistency can be maintained throughout testing and troubleshooting application issues.

#### **Medical Provider Network**

The MPN project successfully rolled out both the “find a doctor” and “transfer of care” applications that allow an injured worker to find a provider in the L&I network and to transfer their claim to a provider in the L&I network. The use of GIS technology results in a user friendly interface. The result ensures that workers are being seen by quality providers and drives overall claim costs down and quality of service up.

#### **Washington Stay at Work Project**

This project has given L&I the capacity to pay employers to keep workers on light/alternative duty, rather than on time-loss as well as to pay some traditional “vocational” costs (classes/textbooks) to employers in support of the alternate duties. The agency has paid out a total of \$7.3 million under this program to date. Under traditional time loss, the agency's costs would have been \$8.76 million, resulting in a net savings to the agency of \$1.46 million to date, as well as statistically improved outcomes to workers.

#### **Phone System Upgrades**

Phone systems employed in L&I regional offices have been updated and converged from disparate stand-alone systems to centrally-managed IP based phones. This eliminated the cost of long-distance calls between offices, and significantly reduced monthly phone bills. Target goals will consolidate all phones across the agency and eliminate all interoffice, long-distance phone charges, saving the agency \$2,000-\$3,000/month. L&I technical staff have also produced a video to educate employees on how to optimize the use of the state's long-distance SCAN system, resulting in an additional monthly savings of about \$2,000.

## Structured Settlements Project

The Structured Settlements Project has automated the gathering and aggregation of data used by knowledge workers negotiating claim settlements with injured workers. This automation has eliminated roughly two hours per settlement, greatly increasing the efficiency of this small work unit.

## OPPORTUNITIES

L&I IT team and budget tracking is disciplined and thorough, but doesn't track IT tower costs or application costs or IT cost by business program. Adopting technology business management tools and techniques may enable more strategic decision making based on looking at IT spending along the lines of application costs or IT spending per program. This is what L&I plans to do.

## OCIO RECOMMENDATIONS

- L&I should consider consolidation of IT operations of various regional offices and that could result in better productivity and cost efficiency. Currently more than 40 percent of IT staff are not reporting up to the agency CIO. Giving the agency CIO responsibility for divisional IT may result in more cohesive exploration and investment in toolsets for collaboration and communication that may enhance sharing of best practices and faster decision making across headquarters and divisional offices.
- It is important that we have a path to move off mainframe in the next 4-6 years. L&I developed a plan, but has been unable to implement because of funding limitations. This presents a potentially big risk in 5-10 years. L&I should propose a multi-stage plan and start executing on such a transition

## PROJECT SPOTLIGHTS

### Occupational Health Management System (OHMS)

The OHMS Project will deliver a web-based solution to support care coordination activities and tracking of occupational health best practices to improve outcomes for injured workers. OHMS is needed to expand Centers for Occupational Health and Education (COHEs) as required by SSB 5801, as well as implementation of other L&I initiatives to promote best practices. The OHMS system will support the COHE staff, L&I staff and medical providers involved in COHE and other best practice programs. This will include integration with L&I core systems, as well as COHE, medical providers' electronic medical records (EMR) systems, and the state Health Information Exchange (HIE).

SCHEDULE	START DATE	END DATE
Original	July 2012	June 2015
Revised	None	None

BUDGET CATEGORY	ORIGINAL BUDGET	REVISED BUDGET
Staff (salaries & benefits)	\$1,645,170	
Purchased services	555,000	
Personal services	1,909,030	
Hardware	60,000	
Software	2,860,000	
Travel		

BUDGET CATEGORY	ORIGINAL BUDGET	REVISED BUDGET
Training		
Other	80,000	
TOTAL	7,109,200	No change

## OCIO ANALYSIS OF PROJECT

The OCIO review of this project included an analysis of the project's risk and severity; defined as the effort needed to complete the project, maturity of the proposed technology, agency preparedness, impact on citizens and state operations, visibility to stakeholders, consequences of project failure, and impact on the agency. It was determined that this project rated at a Risk/Severity Level 2 (on a scale of 1 to 3), which requires expert project management planning, documentation and staffing as well as regular monitoring by OCIO oversight staff. L&I has conducted a thorough planning effort in the lead up to this approval. A comprehensive feasibility study was conducted, an expert project manager has been assigned to this project, and L&I contracted for the services of a qualified external Quality Assurance vendor. Additionally, the agency's IT team has demonstrated a high level of technical competence and organizational maturity. Based on the planning and organizing efforts to date, L&I is well positioned to successfully execute this project. This project was approved to move forward by the OCIO on 10/11/2012.

# EMPLOYMENT SECURITY DEPARTMENT (ESD)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### RECENT TECHNOLOGY SUCCESSES

#### Virtual Hold Technology

One of the many challenges for the Employment Security Department was high call volumes driven by the Great Recession. Telecommunication tools were at full capacity and despite adding network capacity, callers still experienced blocked calls and long hold times. The solution was Virtual Hold Technology which was a new way for claimants to interact with TeleCenters. Claimants can choose a return call from the TeleCenter rather than waiting on hold. It was an immediate federal SBR-funded solution. The project was implemented in three months by a team of IT and business staff already experiencing high claims load and managing existing systems and projects.

The result was 59 percent of callers were offered a callback. Of those, 72 percent chose the callback option. Projected monthly toll-free (1-800) minutes saved was 765,000 (12,750 hours), with \$20,000 in monthly toll free costs avoided. The “call abandon rate” was reduced by two-thirds. This has become a very popular service adopted by many claimants, leading to reduced claimant frustration due to long hold times. It has resulted in happier claimants, which have also resulted in happier agents.

### ORGANIZATIONAL CONTEXT

The close relationship between IT leadership and commissioner is a model for other agencies to emulate. The IT leader is an integral part of decision making and strategy setting in the organization.

ESD centralized IT within the agency several years ago and this makes it much easier for the commissioner to set and change priorities across programs by directing resources appropriately. ESD is a model for other agencies in this regard.

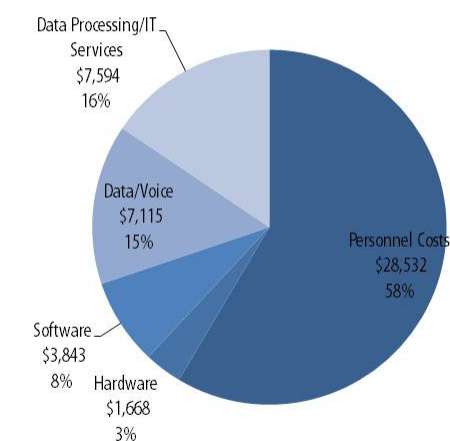
The Next Generation Tax Systems (NGTS) is proceeding toward completion. The ESD IT team has been an integral part of the team building NGTS. However, it comprises less than 25 percent of the team. Maintaining NGTS without help from the vendor may become difficult in the first few years after completion. It probably makes sense to budget some IT dollars to continue to keep key vendor people around.

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**IT \$: \$48.8 m**  
**IT FTEs: 284.2 FTEs**  
**IT as % of Agency FTEs: 12.6%**

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#### Employment Security Department IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)



There are a lot of planned projects in flight. This can constitute a risk as the commissioner retires. It is imperative that the next commissioner seriously consider retaining the current CIO/IT leadership, especially since cutbacks in IT staff are likely to happen simultaneous with the change in commissioner due to federal funding.

ESD's planned projects are all focused on unifying all the applications with one modern stack so talent within the agency can work where needed. Also, ESD will not renew its Microsoft Enterprise Agreement. This is a pragmatic decision and probably will pay off over a few years.

ESD's overall vision of delivering remote services and tracking efficacy of those services is a compelling use of technology.

ESD is a leader in having a GMAP process in place that includes IT metrics for performance. Other CIOs can learn from this and ESD can be a model for others to follow.

Since ESD has so many projects in progress, there has not been an effort thus far to have maintenance and operations related cost metrics — such as cost per transaction (IT cost or overall cost) — modeled and tracked. Given ESD's sophistication, this kind of overall transaction cost modeling of processes may help the commissioner make strategic decisions as well as tactical prioritization decisions more easily since the vast bulk of the agency's resources go into running the system.

## PROJECT SPOTLIGHTS

### Next Generation Tax System (NGTS)

**Original schedule:** February 2012

**Revised schedule:** October 2013

BUDGET CATEGORY	ORIGINAL BUDGET	REVISED BUDGET
Staff (salaries & benefits)	11,977,614	12,424,004
Contracted services	26,568,554	29,776,123
Hardware & Software	1,302,276	4,663,890
Goods & Services, Travel, and Training	1,400,367	4,964,140
Other	1,327,446	2,198,773
Contingency	4,251,497	5,213,070
TOTAL	\$46,827,754	\$59,240,000

The NGTS project is replacing ESD's legacy mainframe system (TAXIS) and 14 ancillary systems that collect Unemployment Insurance (UI) taxes from firms that conduct business in Washington. The TAXIS system has been in place since 1984. The scope of the NGTS project includes:

- An accounting system that meets Generally Accepted Accounting Principles (GAAP) standards including for billing employers for any payments, interest, or penalties due.
- A comprehensive data repository with information on: all employers that do business in Washington state; wages paid to employees; reports on taxes and wages paid; UI tax payments; and a history of interaction between the employers and ESD.

- Functionality (including Internet-based) to register employers, establish employer accounts, and manage changes to those accounts.
- Multiple means (Internet, electronic media, paper reports) for employers to file quarterly tax and wage reports and to pay their taxes.
- Support for field audits at the employer sites.
- A collection system to receive tax payments and to initiate collection for unpaid taxes.
- A means for supporting UI tax investigations of unpaid taxes and potential fraud.
- Functionality to use historic benefits payments to employees as a basis for establishing tax rates (experience rating) and for establishing tax rates for new employers based on their type of business.

The NGTS project is funded through a Federal Reed Act appropriation.

## OCIO ASSESSMENT OF PROJECT STATUS

Although this project is implementing two years later than originally planned at the outset, it is a well-managed large development project. ESD originally planned to spend 15 months reengineering and documenting the detailed requirements. Once they began, they realized they had underestimated the effort and time required for this portion of the project. Rather than shortcut this step, ESD took an additional 15 months and increased the budget to ensure new system to meet the agency's reengineered business processes.

The original completion date of February 2012 was set prior to releasing the Request for Proposal (RFP). After selecting the vendor, the contract was signed with a September 2012 completion date. The current schedule calls for ESD to start User Acceptance Testing in March 2013 and begin using the new system in production by October 2013, followed by a six-month warranty period.

In addition, the early project strategy did not include contractor funding for Organizational Change Management (OCM) or Independent Verification and Validation (IV&V) support. ESD has strongly leveraged the OCM vendor to prepare the agency for the change resulting from the deployment of a significantly new application. While ESD utilized an IV&V process for much of the project, they ultimately decided that the return on investment did not justify the expenditure for the service.

ESD intends to apply the lessons learned in this project to their next planned project, the replacement of the unemployment insurance benefits system, GUIDE (see the next ESD project). Those lessons include:

- Due to the extensive turnover, the vendor must have additional staff on site ready to step in when staff leave prematurely.
- The final business processes (design) must be well understood prior to starting the project.
- Data conversion must start early in the project.
- The project team must have a process for implementing improvements (lessons learned) frequently throughout the project. Waiting until the end of the project to review opportunities for improvement is too late.

- Both the business sponsor and technical sponsor must have a good understanding of the other's portion of the agency. While not interchangeable, they should be able to communicate in ways the other can understand.
- Co-locating the agency and vendor's teams improves the communication and understanding between them.

#### How Project Advances the Current IT Strategic Plan

The NGTS project replaces one of ESD's core agency applications and 15 ancillary applications. NGTS is being developed using current application development tools and systems. Also, the NGTS architecture will be used as the basis for future core applications. ESD intends to begin replacement of its other mainframe based core system, the General Unemployment Insurance Design Effort (GUIDE) application.

#### Next Generation Benefits System (NGBS)

Original schedule and budget: The following information is taken from the Next Generation Benefits System (NGBS) feasibility study. This project has not yet requested or received funding and has not started. The feasibility study estimates that development of NGBS will require approximately four years from the time the vendor begins work.

BUDGET CATEGORY	ORIGINAL BUDGET	REVISED BUDGET
Staff (salaries & benefits)	\$5,995,809	
Contracted services	21,128,804	
Hardware	2,611,079	
Software	1,288,504	
Goods & Services	1,177,040	
Travel & Training	45,463	
Communications	185,917	
Other	1,304,670	
Contingency	8,434,321	
TOTAL	\$42,171,607	N/A

The scope of the New Benefits System will include:

- Use of the infrastructure that was developed for the NGTS system.
- An *Eligibility and Payment* module that will calculate benefits amounts and duration for all UI programs and entitlements.
- An extension of the subsidiary ledger accounting service that has been developed for the NGTS system.
- A *Benefit Charging* module that will support the payment structure as well as the employer tax structure.
- An *Initial Claims* module that will guide applicants through the process of applying for benefits on the Internet and be used by staff in claims centers.
- A *Weekly Benefits Certification* module that will guide claimants through the process of certifying continuing eligibility for UI benefits.
- An *Issue Resolution* module that will assist UI staff in determining eligibility when an application or benefits certification has issues.

- A *Collections* module that will streamline the billing process and leverage functions developed for NGTS for instituting legal actions for collections.
- Additional tools (e.g., data mining) that will assist ESD staff in detecting instances of fraud.
- An electronic mailing function to communicate with both claimants and employers.
- A reports engine, developed specifically for NGTS, that will streamline the development and maintenance of reports and make reports readily available to ESD staff.

## OCIO ASSESSMENT OF PROJECT STATUS

This is an important software system that will complete the software upgrade of ESD. There has been a systematic set of planning artifacts that were created by the consultant hired to pull requirements together. The high level concerns that were expressed in the first review of this project included:

- Could we share solutions with other states? Essentially, the answer seems to be that the federal government is funding the building of different solutions in each state. This seems inherently wasteful since it should be easy to create a configurable system that can be adapted to different states. However, absent any kind of central coordination, it appears that the best approach is to build our own solution.
- We need to discuss the requirements with a broad group of stakeholders in the legislature and in business to make sure we are properly capturing the right forward-looking requirements.
- Based on the current estimates, there isn't enough funding to complete this project. Ideally, we should articulate an intermediate milestone that delivers actual value to the program or we should find a less expensive way to get the work done before we embark on the implementation.

# DEPARTMENT OF CORRECTIONS (DOC)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### RECENT SUCCESSES IN TECHNOLOGY

#### Mainline BarCode Scanning Project

The Department of Corrections operates 12 prisons across the state. Each day more than 53,000 meals are served to offenders in these facilities. Offenders have the choice of a standard or special diet, and preferences are influenced by factors such as health needs or religious preferences. A standard diet meal is less expensive to prepare and serve. Special diet meals are more expensive — sometimes almost twice the cost of a standard diet meal.

Standard diets are always popular when pizza, cheese burgers or holiday meals are served. Some offenders would have a second meal. Other offenders would spontaneously opt out of the special diet and switch to the standard diet resulting in food waste.

With budgets tight, the business and technology collaborated to devise a solution. Cafeterias in the prisons now have barcode scanning stations. Offenders — who have barcodes on their identification badges — are scanned at the beginning of each meal. The system then displays the diet selection for that offender and they proceed to the appropriate meal line. An alarm sounds if offenders attempt to enter the meal line for a second time. Now that offenders are required to take their special diet, many have opted be removed from the special diet list and eat the standard diet resulting in the preparation of fewer higher-cost meals.

The system, which is now implemented statewide, is making food service more efficient by eliminating waste, stopping over-consumption and preparing more standard diet meals.

#### ProviderOne Payment Processing Project

DOC spends millions of dollars each year on off-site patient health care for offenders in the state's institutions. Although much health care occurs within the institutions and is provided by DOC health services staff directly, not all health care can be provided in this setting.

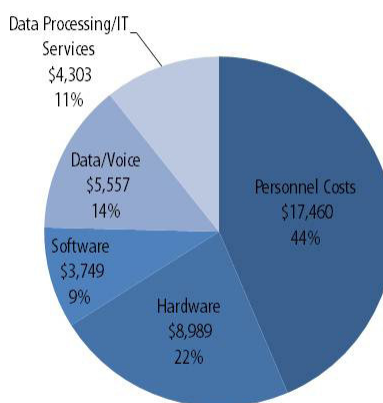
Offenders are routinely transported off-site for assessment, treatment and care. Some offenders require hospitalization. For many years the department adjudicated and processed medical claims manually. The process was labor intensive and did not always result in prompt or accurate payments to providers. Many of these providers had the technology to generate automated claims in a HIPAA compliant fashion.

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**IT \$: \$40.1 m**  
**IT FTEs: 174.4 FTEs**  
**IT as % of Agency FTEs: 2.2%**

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#### Department of Corrections IT Spending — Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

Unfortunately, the department lacked resources to automate claim processing.

In February 2012, the department began working with the Health Care Authority on the feasibility of using the ProviderOne payment system to adjudicate and process claims on behalf of DOC. Community health care providers can now submit electronic claims directly into ProviderOne, resulting in more efficient and timely processing of health care claims. This project was successfully implemented in September of 2012.

## RECOGNITION

DOC's operational dashboards and release processes are mature and should serve as an example for other agencies. The IT team carefully looks at many metrics and discussions are open and relaxed and result in actions. New metrics are introduced and old ones that are no longer relevant are removed. The CIO has been an important contributor to this maturity and should be retained across the change in administration.

## ORGANIZATIONAL CONTEXT

IT is very important for the proper functioning of the state's prison system. IT is integral to the operations of the prisons in several ways. Of late, legislators have put a lot of pressure on IT spending in Department of Corrections. It is imperative that this pressure not result in decreased IT investment in important areas. Legislators who are interested in corrections are strongly encouraged to gain a deeper understanding of the role IT plays in incarceration and rehabilitation of prisoners. There are certainly opportunities for improving IT spending in DOC, and a few of them have been identified by the agency CIO (listed below). DOC IT is also on path to achieving much better understanding as well as transparency in IT spending and so it is likely that more opportunities will be identified.

DOC networks are becoming complex due to the variety of demands such as in-prison computer systems for electro-mechanical systems, laptops for various prison officials, servers for various in-prison applications and distance learning needs. At the same time, DOC is losing talent because of the demands on the team. It is important that DOC is able to hire senior networking and security people so that all the networking and security needs can be properly handled.

## OPPORTUNITIES

- Department of Corrections spends more than \$3 million per year on its core software (OMNI) in order to have it run on a mainframe. This software was forced to run on mainframes — a much older technology — even though there was no technical need and it was much more expensive than running it on Windows Servers. As far as we can tell, this was done in order to help DIS with higher cross-charges that come from the higher expenditure. This results in substantially higher costs for DOC and the software remains on an older platform. This issue was identified a year ago and a project to get OMNI off the mainframe is expected to be completed by April 2014.
- DOC is urged to make this project a priority and also to coordinate closely with CTS so the impact of DOC decreasing or eliminating its mainframe footprint is well understood by CTS.
- As an effort to prepare for using technology business management tools, DOC identified about \$7 million more of spending that can be classified as IT. It is possible that there are opportunities for optimizing spending in these newly identified areas.

- The adoption of TBM tools and practices and driving to an understanding of IT spending by IT tower as well as by application or business area will enable DOC to make more strategic IT spending decisions.
- The new DES rate structure, CTS Bill of IT and adopting TBM tools should all drive down the time spent on currently on analyzing the billing cross charges
- Cyber security is becoming an extremely important topic and there have been discussions in the public arena about potential hacking of prisons. DOC should increase its focus on cyber security and ensure that all servers, networks and desktops are properly managed. Electro-mechanical security systems designed to keep doors locked should be secured and isolated from the internet. Distance learning is important for educating our prison inmates but the increased security risks must be managed.
- Electronic medical records and pharmacy automation is a pressing need for prisons and may yield savings. It may be valuable for DOC and DSHS to join forces in examining solutions for this purpose since DSHS is proposing to explore such solutions for Western State Hospital.



# WASHINGTON STATE PATROL (WSP)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### ORGANIZATIONAL CONTEXT

IT is important to WSP's mission. Today, IT spending is mostly on maintenance and operations. Also, funding for WSP in general (and hence for IT in WSP) has not always been forthcoming. Many of the systems for WSP are old and antiquated. Finding, hiring and retaining competent people is a major issue for WSP. There are 14 openings that currently need to be filled.

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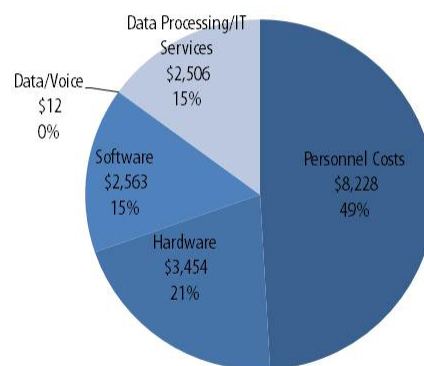
**IT \$: \$16.8 m**  
**IT FTEs: 92.0 FTEs**  
**IT as % of Agency FTEs: 4.0%**

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### OPPORTUNITIES

One way to find dollars for IT investment may be to systematically identify ways to shrink the Maintenance and Operations costs of IT and then use those resources for new investments. One path to doing that is to identify the cost of IT per application and per program or strategic area and then revisit which applications cost too much for the value they are delivering and get rid of them or find alternatives. It is important that the CIO be able to talk about costs of IT per strategic area and how that could be changed to meet the strategic goals of Washington State Patrol. This can be facilitated by having a regular conversation using a simple dashboard focused on end-user metrics and cost and spending metrics focused on applications and program areas using technology business management tools.

**Washington State Patrol**  
IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

New federal rules require WSP to start using a new technology called P25. The state's P25 effort is on track. One issue with regard to the way the P25 project came together was that the agency chose to go single source with a very powerful vendor. This was done for very good reasons and eventually the agency did get a reduced dollar cost (by \$12 million). However, we initially were not able to generate enough competitive pressure to get that price — possibly an even better price — from the outset. OCIO requests/recommends that Washington State Patrol IT adopt a nimbler process for driving competition among a limited number of vendors, short of a complete RFP for such acquisitions in the radio space.. Essentially, if we already know that there are only two or three vendors who would have the ability to qualify to supply us some technology, then it appears that the existing procurement rules force either a single-source procurement or a very extensive and time-consuming RFP process. The process that would ensue in the private sector is one where the buyer would engage in a more lightweight manner with the two leading contenders and have them bid on price and terms. WSP (and the rest of state government) should have the same flexibility. In this instance, the single-source decision came for a very strong pushback from legislators.

The mobile office platform is in its early days of deployment and there is a request for additional dollars to finish the deployment.

WSP is currently a paper-driven agency. Most of the logs of officers are generated first on paper and that paper is the primary evidence. Someone else acts as a data entry operator and keys in the transcript of these logs. This is subject to errors and tampering if anyone in the chain of handling the evidence is dishonest. In general, it appears that WSP has a lot of paper generated that should be managed online instead.

Further, it appears that public discovery requests are increasing rapidly. The usual pattern is that a state agency ends up having an adverse court judgment against the agency due to some kind of public discovery shortcoming or litigation shortcoming and then there is a high priority and systematic effort to implement document and records management. Hopefully, WSP can get ahead of the curve and start researching document management needs so WSP can make an educated decision in a year. WSP should also propose a solution to enable that be generated in electronic format to begin with so there is no need to capture and manage paper images.

## OCIO RECOMMENDATIONS

- While the OCIO supports the mobile office effort, we'd like the State Patrol to track the benefits of deployment anecdotally (examples, testimonials) as well as statistically (i.e. increased tickets written, shorter stops on the highway).
- The computer in the patrol car is usually accessed via touch and it may be that adopting the latest touch technologies will have a significant impact on the safety and productivity of patrol officers. Accordingly, State Patrol IT is encouraged to try Windows 8 in experiments and to analyze the difference in productivity between Windows 8 and Windows XP or Windows 7.
- State Patrol is encouraged to get a long-term guarantee of cell phone data plan account charges to be fixed per connection/officer now so WSP is not surprised by the billing being changed to per byte bandwidth charges down the road.
- Video is generated all the time as a Trooper does his or her job, and this now needs to be transported to a server and made available for public discovery. This consumes a lot of bandwidth if done over the network. Hence, WSP needs to make plans for upgrading its bandwidth (see below for more notes on this topic).
- WSP's current data center is inadequate. The most important path for improving disaster recovery is WSP moving in to the State Data Center. WSP's costs of the pilot and the actual move will be borne by SDC funds, should they be approved.
- WSP has two IT teams — one for networking and one for everything else. There should be serious consideration given to combining these two teams.
- The WSP is running into bandwidth constraint situations in many areas — the transport of video from patrol cars to a central location is one example. Training troopers in the field offices using videos is another. What's more, many field offices may currently have expensive and older technologies being used to connect them to the state network. Accordingly, we propose the following actions:
  - » Explore whether K20 network can provide the necessary backbone.

- » Do a thorough comparison of costs and bandwidth of connecting to the various field offices with K20 costs and bandwidth to nearby locations. Also, WSP should get bids for some of these addresses and compare costs and benefits. They should measure and focus on field offices that are already bandwidth constrained.
- » Make a commitment to systematically measure utilization of links and making that transparent within the organization so WSP always knows which links are nearing saturation.
- » Overall, WSP should use technology business management tools to properly model the overall costs of networking. There isn't transparency within WSP today about how much it costs us to maintain any given link.

# CRIMINAL JUSTICE TRAINING COMMISSION (CJTC)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### ORGANIZATIONAL CONTEXT

CJTC is responsible for training approximately 10,000 law enforcement officers in Washington state. CJTC passes through funding of about \$4 million per biennium to 59 jails and prisons for a system that tracks all the people who are in jails and prisons in the state. This system has resulted in substantially improved ability for law enforcement personnel to track someone in another jurisdiction who is wanted for a crime. CJTC faces funding issues and its IT infrastructure is inadequate for its needs.

CJTC IT supports about 12 servers, 40 FTEs, two computer labs with 30 computers each and 12 classrooms with two laptops each. All of this is done in a very lean fashion with just three IT employees.

CJTC has begun to experiment with tablets to record video of personnel in training simulations and use that recorded video to help give feedback to the trainee. This has been very helpful but there is currently no funding to continue to maintain and upgrade these tablets in the future.

CJTC depends on the Gambling Commission for training on how to handle computers that are confiscated as evidence in a crime. There is not much training offered by CJTC focused on using the internet, social networks, smartphones and computer systems in investigations. This is primarily left to an officer's personal experience today.

### OCIO RECOMMENDATIONS

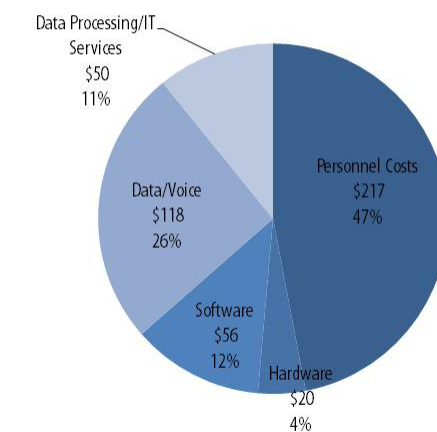
- At the CJTC training center, officers are expected to use the internet to research facts and details of a scenario using the internet. Currently, the internet connectivity of the CJTC training center with its three T1s is inadequate when many people are trying to simultaneously use the internet. OCIO strongly supports the spending needed to get higher bandwidth connectivity for the training center.

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**IT \$: \$0.5 m**  
**IT FTEs: 2.0 FTEs**  
**IT as % of Agency FTEs: 5.5%**

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### Criminal Justice Training Center IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

- CJTC adopted a Learning Management System a few years ago for a comparatively low price and they have only recently been able to get it working satisfactorily. CJTC may be able to provide more distance learning using video served up from its online learning system if it is able to find such content. It is recommended that CJTC explore online sources of law enforcement training videos to augment its current offerings. CJTC may also want to consider utilizing the online training system that has been procured and deployed in the state's community college system.
- CJTC should move its email to the service run by CTS and join the state Active Directory forest so it can utilize more state services delivered by centralized IT.
- CJTC may be able to better utilize its small IT staff by handing off more servers to be hosted by CTS.

# DEPARTMENT OF TRANSPORTATION (WSDOT)

## RECENT TECHNOLOGY SUCCESSES

### Images Cloud Test (DOT)

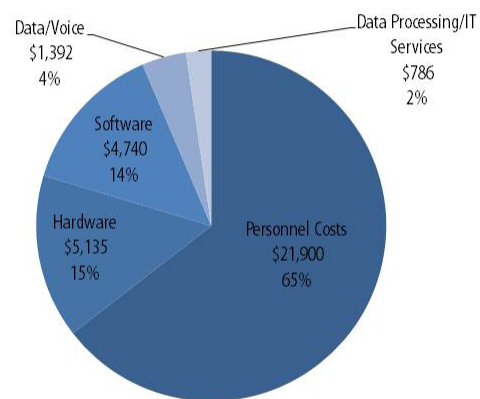
In October 2012, WSDOT conducted a live trial of using cloud services to host WSDOT's images web site. For 24 hours, when the public accessed the WSDOT web site (or other web sites that also reference WSDOT images) those images were being served up by the cloud service. This test is part of WSDOT's winter preparation as a way to add capacity during peak winter storm events. The test was very successful and cost just over \$20 for that 24-hour period, representing an average day's web site volume. The test also received favorable news coverage, including a post on the [WSDOT Blog](#) and a news segment on King5 TV Morning News. The ability to temporarily shift demand to an alternate cloud service provider gives WSDOT burstable capacity for those peak winter days that can be 10X more than normal, without the typical investment required to size its own infrastructure to meet those peak demands.

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**IT \$: \$34.0 m**  
**IT FTEs: 239.9 FTEs**  
**IT as % of Agency FTEs: 3.4%**

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### Department of Transportation IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

### Open Data Initiatives

As part of the traveler API, basic ("foundation") data is provided free of charge to the public through simple SOAP interfaces. Data available at all times includes: current and future schedule details; terminal information; fare information.

To better participate in regional initiatives for schedule coordination among transit agencies, WSDOT provides a weekly update of WSF schedule details in an industry-standard "GTFS" (Google Transit Feed Specification) format. This file is picked up by web crawlers from Google, Bing, and other interested parties.

To save ferry customers time, we have implemented an automated call-back queue when wait times for information by phone (the "511" system) exceeds 30 seconds. Customers are given the option to wait for a callback, rather than waiting on hold (no matter how nice the music is . . .). Customers do not lose their place in the queue, and can continue with more meaningful things than waiting. In the three years that the solution has been in operation, over 3,500 hours of "on hold" time and frustration have been saved for our customers.

### Automated Infrared Roadside Screening

The Automated Infrared Roadside Screening (AIRS) system is an innovative new technology researched, designed, and developed by the WSDOT Expanded Commercial Vehicle Information Systems (CVISN) program in cooperation with the Washington State Patrol Commercial Vehicle Division. AIRS is a tool to

consistently inspect commercial vehicle brakes without human intervention or interruption of a vehicle's travel. AIRS can potentially inspect every brake on every vehicle entering a weigh station and determine if it is effective or not; whereas previous methods required putting a vehicle out of service and physically inspecting it. AIRS benefits both the trucking community by highlighting those vehicles that need attention vs. random selection and benefits the Washington State Patrol Commercial Vehicle Division assisting limited staff to focus more on those vehicles needing further attention.

AIRS software was built upon existing commercial off the shelf software to reduce risk, development time, and cost. The center of AIRS is a state of the art infrared thermography camera, uniquely positioned in the middle of the roadway, looking up from below the road surface. As vehicles enter the weigh station they pass over the camera where each brake is inspected and analyzed with machine vision and automation software technologies. Other technology developed for AIRS uses invisible infrared beams to trigger the processes and track the vehicle as it passes; while machine vision and automation software technologies process the data. AIRS transforms this complex data into simple graphics for users to rapidly identify where to look for the defective brake. A color image is provided for an Officer to match the vehicle's AIRS data in the station on a PC monitor as the vehicle approaches. An Officer can go about their duties and easily establish those vehicles that need his/her attention.

#### **Office of Minority and Women Business Enterprise**

Disadvantaged Business Enterprise Certification (DBEC) is a new software application developed for Office of Minority and Women's Business Enterprises (OMWBE). The vision of the project is to reduce application processing time for OMWBE certification to meet the federal regulations and WSDOT and Federal Highway Administration milestones. DBEC will track and route all the certification documents for review, approval and certification of the application. The project will implement document management workflow solution which will provide routing of applications and supporting documents, sending reminders and notifications to assigned and responsible staff. It will provide visibility of where each application is in its life cycle. It involves implementing reporting tools to help track all applications and identify the ones that are close to threshold or pending. The solution will also simplify the current approval process and make it more efficient by using Enterprise Document Management technology to integrate the application receipt and approval process with the current tracking database. Additionally, the application also includes providing interface for other state agencies and colleges to submit their spending data, which is used to generate performance report for each agency.

## **CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS**

### **Recognition**

- WSDOT's disciplined approach to managing its servers is reflected in high rates of virtualization and the high ratio of guests to hosts on its servers.
  - WSDOT is also a leader in adopting cloud technologies in WA State. They recently successfully concluded a trial that showed that they can handle burst peak loads better with lower costs and better service using cloud platforms. This will ensure that citizens have up to date information during the next snowstorm.
  - WSDOT IT has a systematic approach to creating and using an operational dashboard to ensure that services are being delivered well and problems are properly surfaced.
  - WSDOT IT has been a leader in making data available freely.
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## ORGANIZATIONAL CONTEXT

Department of Transportation (WSDOT) has an efficient and well run IT team that has driven improvement to maintenance and operations spending in many areas in recent years in response to budget cuts. This is reflected in the way it has deployed new services and more PCs and servers over the last decade with minimal increase in IT spending overall. The Gartner study implies that WSDOT is under-spending compared to its peers to the tune of many millions of dollars per year. The CIO is a very valuable IT leader for the state and we urge the next administration to retain him.

There are approximately 40 persons who are classified as IT but are not part of the WSDOT IT team. There may be good reasons for some or all of these people to not be part of the IT team but this is something that should be looked at carefully. It is valuable to have them belong to a highly functioning IT team and learn from the practice and process of the centralized IT team.

For example, the tolling project vendor is not managed by the WSDOT IT team. While the Tolling team is strong and driven, it could have possibly benefited from the dashboard and metrics driven approach (like GMAP or LEAN) that the central IT team has to drive IT operational quality. The tolling system has a set of persistent problems that should be systematically addressed using a monthly metrics driven effort that highlights areas for improvement.

A long term solution to potential reductions in gas tax revenues is going to be driven by technology and the WSDOT IT team will continue to be an important part of delivering such solutions.

## OPPORTUNITIES

Overall, WSDOT IT has many investment needs that they have put off making for several years including equipment that has not been updated even though it is well past its prime. Some of the impacts of equipment failure are dire.

The Time, Leave and Attendance Project (TLA) represents a partnership of state agencies under the leadership of OFM, and the operational support of Enterprise Services.

The technology will first be implemented in two pilot agencies: the departments of Transportation and Ecology. Transportation was chosen because of its pressing need to address identified deficiencies as well as the fact that its complex systems and process environment will address many questions and decisions early in the pilot phase and lead to a more complete enterprise solution. Ecology was chosen because of its readiness, simpler organizational structure and financial complexity. Piloting the solution at these agencies will help to ensure the solution accommodates the broad needs throughout state government.

Drivers Include:

- State commitment to enterprise solutions for business process and systems improvement
- WSDOT's current time keeping systems, both built in the early 80's, are outdated and don't meet critical agency business needs
- WSDOT has eleven complex collective bargaining agreements (CBA). Compliance relies solely on the judgment of many individuals to properly interpret and apply. This significantly impacts consistency and risk of establishing past practices.

- Current systems fail to provide complete and timely data
- Lack of consistency in timekeeping processes
  - » Existing processes are inefficient, error prone and lack adequate internal controls
- Significant duplication of effort across agencies

#### TLA Program Scope:

- Enable electronic time and leave capture (electronic timesheets), approval and reporting, using automated workflow
- Facilitate schedule development, assignment, and management. *Considering opportunities of more robust scheduling/ dispatch*
- Use configurable rules engine to enforce compliance with collective bargaining agreements (CBA), statutes, and rules
- Provide robust management, exception and performance reporting
- Integration with HRMS, AFRS, TRAINS, and other required agency line of business systems
- Provide employee self-service (check work schedules, leave balances, leave approvals, etc.)
- Replacement of the current FTE calculations and weighted labor distribution methodology with a hybrid HRMS solution

#### Keys to Success:

- Strong organizational change management
- Enterprise wide – with agency “ownership”
- Standardization with agency agility
- Realistic planning approach
- Efficient decision-making
- Executive leadership sponsorship/support
- Demonstrate value for the agency

The Ferry system has had a \$1.6 million failed attempt to replace some of its operational software, in large part, because the new system was not accepted by rank and file employees. This casts worries on the Time, Leave and Attendance (TLA) project since there is yet again an effort to replace some core software for Ferries personnel scheduling and attendance. This means that the WSDOT leadership and IT leadership should both have very high confidence that the people who work in the Ferry system actually are very interested and eager to adopt the new software. WSDOT has been very attentive to ensuring that all organizations within WSDOT, to include special emphasis on ferries division, are actively engaged in the TLA project to ensure the business needs of the organization are properly represented and system requirements identified. WSF management is actively engaging in the project and establishing clear expectations for their employees. WSDOT has also met with representatives of all unions representing WSDOT employees and will continue to meet with these stakeholders to ensure employee engagement, buy-in and project success. It seems clear that WSDOT leadership are taking the necessary steps to ensure that the keys to success are implemented and practiced.

- The successful Ferry reservation pilot is an indication that the WSDOT IT team has learned how to be deliberate in its approach to change management
- The Time, Leave and Attendance effort has also been very deliberate in its approach to change management and ferries personnel have been present during demos

The WSDOT IT team may be well served by modeling the costs of all applications in its portfolio and then the CIO and business leaders can discuss whether the return on investment of each application is justifiable and possibly shut down some applications that are not worth continuing.

WSDOT remains apart from the state Active Directory forest. This is in part because joining the State AD has not provided enough benefits to make it compelling to move. However, it is likely that the impetus to move can come from more enterprise applications using Active Directory for their authentication. Right now, enterprise applications often do not use the state AD and instead store the password and user names in multiple stores because they have to support multiple forests. This in turn makes these systems harder to use (decreasing productivity) and less secure. These indirect costs are harder to quantify and hence the WSDOT team can justify staying on its own forest for now.

Small agencies can benefit from the right kind of IT support from a larger organization. This was demonstrated by the big changes that the WSDOT IT team was able to deliver while taking over IT support for an agency in trouble (OMWBE) recently. This points to the benefit of having CTS provide IT support for smaller organizations.

## PROJECT SPOTLIGHTS

### SR 520 Tolling & Statewide Tolling Customer Service Center (CSC)

#### SR 520 Tolling

**Original schedule:** Nov. 2010

**Revised schedule:** Dec. 2011

#### CSC

**Original schedule:** Jan. 2010

**Operations began:** Dec. 2011

**Revised schedule:** Sept. 2013

BUDGET CATEGORY	ORIGINAL BUDGET	REVISED BUDGET
Staff (salaries & benefits)	\$890,000	
Contracted services	14,177,806	
Hardware	0	
Software	0	
Travel	0	
Training	0	
Other	0	
TOTAL	\$15,067,806	No change

SR 520 Tolling and the Customer Service Center (CSC) were authorized by Engrossed Substitute House Bill 2211. The purpose of the project is to help finance the construction of the replacement SR 520 floating bridge and landings through two separate but interrelated projects: 1) installing electronic and photo tolling

technology on the existing bridge; and 2) contracting with a vendor to staff and manage a CSC that will manage customer accounts, process payments and toll transactions, and provide and maintain an accounting system for toll transactions.

## OCIO ANALYSIS OF PROJECT

WSDOT has reported that the overall goal of collecting tolls to finance the replacement of the SR 520 bridge is ahead of schedule; that is, WSDOT has collected more in toll revenue at this stage than originally planned. The portion of the project that generates electronic and photo tolling transactions on the existing bridge could not go into production until the CSC was ready to process toll transactions, which did not happen until late December 2011. The tolling equipment vendor used the additional time to test and calibrate their system.

The CSC schedule delay in processing tolling transactions was due primarily to the vendor's lack of staff resources and lack of effective program management. These shortcomings resulted in delays in meeting critical program milestones, especially completion of the Financial and Accounting subsystem. WSDOT and the vendor recently negotiated a formal settlement agreement that includes a new date for system acceptance by WSDOT and damages owed by the vendor for delays in commencing SR 520 tolling. The damages are being assessed as a reduction in WSDOT's monthly payment amount to the vendor between July 2012 and June 2018, or termination of the contract.

Although the CSC contract was to acquire the services of a vendor to establish and operate a CSC per the requirements identified by WSDOT, the agency has learned that it must assess the capability of the vendor to deliver the system earlier in the process.

### How Project Advances the Current IT Strategic Plan

WSDOT's automated tolling projects are innovative and provide a more streamlined and responsive process for toll collection throughout the state. This project is the first step in consolidating CSC functions in one location across all tolled roads. Although electronic and photo tolling to this extent were new to Washington, the project balanced the risk and the reward to yield value for the citizens of the state.

### Washington State Roadway Toll Systems

I-405:

**Original schedule:** October 2013

SR 99 (Tunnel):

**Original schedule:** October 2015

SR 520 (new bridge):

**Original schedule:** June 2015

BUDGET CATEGORY	ORIGINAL BUDGET	REVISED BUDGET
Staff (salaries & benefits)	\$1,180,000	
Contracted services	18,650,000	
Hardware	0	
Software	0	
Travel	0	
Training	0	
Other	0	
TOTAL	\$19,830,000	N/A

Engrossed House Bill 1382 authorized the Roadway Toll Systems project to create express toll lanes on I-405 between Bellevue and the intersection with I-5 on the north end, to toll the Alaskan Way Viaduct, and to toll the SR 99 deep bore tunnel. The Legislature subsequently authorized WSDOT to include tolling for the new SR 520 floating bridge currently under construction. The Amended Budget above includes the budget for this additional scope.

This project selected a vendor to:

- Design, install, test, operate, and maintain the toll systems on the roadways
- Integrate these systems with the existing Customer Service Center (CSC)
- Expand the scope at WSDOT's discretion to include near-term tolling plans already under consideration, primarily replacement of equipment on the Tacoma Narrows Bridge, and installation of equipment on the SR 520 replacement bridge. (Note: the budget and schedule for these potential projects have not been formally estimated and are not included in this report).
- WSDOT may consider the vendor for additional projects such as tolling I-90, the Columbia River Bridge Crossing, and continuation of tolling on SR 167.

## OCIO ASSESSMENT OF PROJECT STATUS

WSDOT and the vendor are in the early planning stages for these projects. The preliminary design work is scheduled to complete prior to the end of December 2012.

### How Project Advances the Current IT Strategic Plan

This project intends to focus on tolling standardization. WSDOT will be able to use the same vendor to implement a common tolling system across as many of the tolling projects as possible.

### Washington State Ferries Vehicle Reservation System (VRS)

**Original Phase 1 schedule:** July 2011

**Final Phase 1 schedule:** November 2012

**Original Phase 2 schedule:** August 2013

**Original Phase 3 schedule:** June 2017

BUDGET CATEGORY	ORIGINAL PHASE 1 BUDGET	FINAL PHASE 1 EXPENDITURES
Staff (salaries & benefits)	\$549,000	\$465,341
Contracted services	1,255,000	2,050,847
Hardware	80,000	9,892
Software	500,000	87,641
Travel	25,000	7,506
Training	20,000	0
Other	0	1,240
Contingency	362,000	0
TOTAL	\$2,791,000	\$2,622,467

VRS Phase 1 implemented the original scope and finished under budget. The following estimated budgets for phases 2 and 3 include both IT and non-IT costs (that is, IT, program, and capital):

- Phase 2: \$2,585,000
- Phase 3: \$3,264,000

The Washington State Ferries (WSF) Vehicle Reservation System (VRS) was authorized in Engrossed Substitute Senate Bill 6381. The purpose of the VRS is to manage demand, spread peak vehicle traffic, improve vessel and dock utilization, reduce wait times, improve customer service, increase travel predictability, and minimize the need for costly terminal and vessel expansion projects. VRS will eventually replace three legacy reservation systems and bring reservations to routes that previously were not served by the existing systems. VRS supports existing phone operator reservations and adds the capability for customers to self-schedule, cancel, or change a reservation via the Internet. Another goal is to expand VRS to support making and managing reservations via smartphones, touch-tone and voice-operated phones, and State Ferries' kiosks.

Rollout of VRS is scheduled for three phases. However, only the first phase was funded at \$2.791 million. Functionality in the three phases includes:

**Phase 1 – Implement VRS on the following:**

- Between Anacortes and Sidney, BC
- Between Port Townsend and Coupeville
- All commercial reservations for the San Juan Islands

**Phase 2 – Expand VRS to the following:**

- All vehicle types on all San Juan Islands routes
- All commercial traffic throughout the ferry system

### Phase 3

- Expand VRS to all vehicles on all routes except non-commercial on four routes that include the high-frequency Mukilteo-Clinton and South Sound “Triangle” routes
- Integrate with the WSDOT Intelligent Transportation System (ITS)
- Provide integration with contemporary personal communications and vehicle communications systems

### OCIO ASSESSMENT OF PROJECT STATUS

Phase 1 of the project concluded in November 2012. This phase of the project successfully delivered the intended functionality and was under budget. VRS went live in June 2012. This delay was due to a change in the implementation approach and a project manager change. The project will not officially wrap up until November 2012.

The delay to June 2012 was caused by a change in approach, a project manager change, and the need to finalize the system requirements. WSF conducted a thorough pre-design study that evaluated all alternatives. The study recommended that WSF acquire and implement a licensed software, Commercial-off-the Shelf (COTS) reservation system. Based on additional research, WSF learned that most of the major ferry systems in the United States and Europe used reservation subsystems that are integrated with an overall ticketing system. WSF recently implemented a ferry system ticketing system. However, WSF and the ticketing vendor determined the ticketing system’s reservation component was not suitable for WSF’s use. WSF made the decision to develop its own reservation system. WSF used the time between June and November 2012 to ensure the application meets all the external and internal users’ needs and to ensure WSF IT staff are prepared to support the application.

### How Project Advances the Current IT Strategic Plan

The VRS project replaces three legacy reservation systems with one. In addition, VRS uses current application development tools and systems.



# DEPARTMENT OF LICENSING (DOL)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### RECENT SUCCESSES IN TECHNOLOGY

#### Mobile and the Web (DOL)

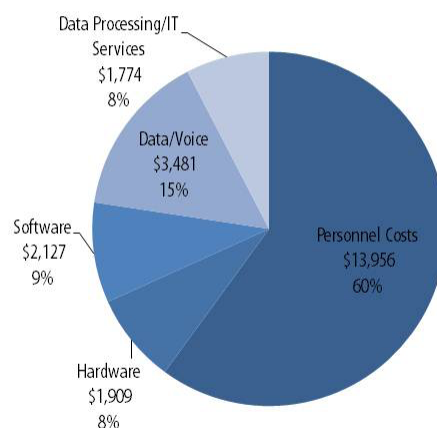
Department of Licensing has multiple examples of innovative use of technology and recognizing the increasing use of technology by customers. Using web analytics, the agency found that each month there is a 1 percent increase in customers accessing the agency website from mobile platforms, which now represents approximately 20 percent of the total traffic. Combined with a cost-of-service delivery showing that an online renewal is roughly one quarter of the cost of an in-person transaction, DOL launched an effort to optimize its website for mobile applications and to develop mobile device apps such as Apple mobile computing platforms. In an example of forward thinking and profound understanding of its costs, DOL is also exploring lower-cost alternatives to credit card acceptance, such as PayPal.

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**IT \$: \$23.2 m**  
**IT FTEs: 156.1 FTEs**  
**IT as % of Agency FTEs: 11.7%**

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### Department of Licensing IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

### RECOGNITION

DOL ensures that for the most part the CIO doesn't have to think about "Color of Money" — the CFO handles that issue. This is definitely a good practice that some other agencies also follow (ESD, for example), and we recommend that other agencies attempt to follow suit.

### ORGANIZATION CONTEXT

Department of Licensing is the second biggest revenue generating agency after the Department of Revenue. It touches almost every resident in Washington state and is often the "face of government" for many citizens.

Since the 2005-2007 biennium, DOL has taken total budget reductions of \$10.6 million, and IT bore more than its fair share because the goal was to absorb those cutbacks without layoffs. IT had a greater share of contractors and as a result lost more resources since contractors were terminated.

This cut in IT spending is reflected in employee experiences and in Gartner statistics that indicate that for a similar size workload, organizations such as DOL spend a substantially larger amount of dollars on IT.

In spite of these cuts, DOL has been handling an increase in transactions as well as an increase in online transactions without hiring new people.

DOL management enabled the IT team to focus on critical changes and issues by eliminating out-of-date work orders and work orders that were not supported by a solid cost-benefit analysis. DOL leadership also restructured the work prioritization process by requiring that the agency's business programs prioritize their technology work requests.

DOL's director has also decided to track projects that promise to save FTEs and is getting those FTEs into an enterprise-wide pool after the project is complete.

It looks like DOL will have 50 percent of its visitors or more come from mobile platforms by the end of the next biennium, if not earlier. By that time, the agency should provide great mobile services and applications for its mobile visitors. This will mean that DOL will have to prioritize creation of mobile web sites and applications. License Express is a great start but this is just the beginning. Other agencies are not tracking mobile visitors systematically and in a manner visible to agency leaders and each agency should begin to do so.

**Legacy Systems:** DOL has a large COBOL legacy and converting that to a more modern codebase is an important task. It is important this be done in phases, with each phase providing measurable end-user value. Each phase should fit in a biennium so that the agency can demonstrate value for each chunk of money allocated for this purpose.

Department of Licensing intends to use technology business management tools to understand its costs. Tracking its costs per application and getting rid of expensive applications that don't add value is an important exercise to clear the way for freeing up people to build new and better solutions.

Since DOL plans to replace most of its core systems, it may be helpful for DOL to simultaneously look at its business processes for optimizations, perhaps by conducting a Lean effort, so that the new systems don't try to mimic the same old ways of getting work done.

## OPPORTUNITIES

It appears that the cost of online transactions is much lower than the cost of in-person transactions for license and tab renewals. We should be able to save substantial amounts of money by moving 80 percent or more of renewals online. This should allow us to shut down office locations and save money. We'd recommend an aggressive, comprehensive effort to move to online transactions — with marketing budgets as well as incentives to go online.

Apparently, we only allow one online renewal for a driver's licenses before needing to come in to the office. Can this be changed by having photo and eyesight services to be delivered by private businesses and then allowing an online renewal? Facial recognition technology may help eliminate fake photos.

The fact that online transactions are cheaper and likely to drive higher customer satisfaction, combined with the steeper cuts in IT, means that it is time to rebuild IT by allocating resources. These resources should be tied to specific end-user metrics. DOL has already begun to do that by finding FTEs that are freed up by attrition. DOL continues to have a lot of open positions and has started hiring college graduates, and this experiment of hiring more inexperienced people and training them up may be working.

## DEPARTMENT OF COMMERCE (COM)

### CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

#### OPPORTUNITIES

Commerce leaders indicated that it will be valuable to adopt technology business management practices and tools, and they are committed to aggressively doing so. Commerce indicated that it will be useful for generating bills for programs within the agency. A spending breakdown by IT towers or applications by adopting Apptio may provide the detail that Commerce can use to find savings opportunities on a month-to-month basis.

We discussed if Commerce IT should look for a 10 percent savings target in its current IT maintenance and operations spending and use that to fund new technology needs. Using technology business management tools should help in driving a Lean process by looking at areas of spending and analyzing opportunities for efficiency.

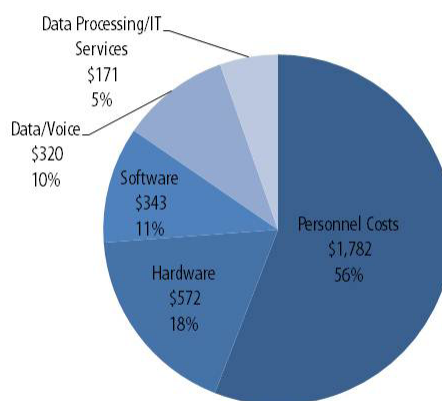
The OCIO concurs with Commerce that improving AFRS to better manage agency finances is a high priority for the state.

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**IT \$: \$3.2 m**  
**IT FTEs: 15.0 FTEs**  
**IT as % of Agency FTEs: 5.0%**

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**Department of Commerce**  
**IT Spending – Dollars in Thousands**



Source: 2012 IT Portfolio Data (submitted by agencies)

#### OCIO RECOMMENDATIONS

- The OCIO recommends that this is the right time for Commerce to switch to Office 365 and look toward moving most or all of its SharePoint sites to O365. That way Commerce can focus on document management and SharePoint governance rather than running and tuning servers. This should save money and increase productivity. Commerce should move its email to shared email operated by CTS
- The OCIO recommends improving Wi-Fi access for guests and explore providing SGN access over Wi-Fi using a common campus-wide name.
- Commerce identified Time Leave and Attendance (TLA) as a pressing need and the right software can save money. The OCIO recommends that Commerce contact DES and request to be an early adopter of the statewide TLA effort. However, the enterprise-wide TLA project will likely take some time before broad adoption becomes possible.

# DEPARTMENT OF ECOLOGY (ECY)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### RECENT TECHNOLOGY SUCCESSES

#### Ecology Invests in the State Metropolitan Campus Fiber Ring and Reduces Overall Agency Operating Costs (ECY)

In 2011 the Department of Ecology partnered with Consolidated Technology Services to complete the Lacey portion of the State Metropolitan Campus fiber ring to upgrade the state's aging Wide-Area Network and to perform an operational review of all network circuit costs. The purpose of the investment was to increase Ecology's ability to move large amounts of data, build the state WAN's resiliency, and increase WAN efficiency.

The initial investment was \$550,000 and resulted in an operational savings of approximately \$6,500 per month (\$156,000 per biennium) as well as a more resilient and robust Wide-Area Network. The savings reflect a true operational cost reduction as well as a significant increase in network capacity and capabilities for several agencies.

#### Managed Print Services

In July of 2011, Ecology rebid and negotiated its long-standing managed print services (MPS) contract to craft a true "pay as you print" approach for its printing needs. This effort resulted in a new strategic approach for print services and reduced monthly operational costs by approximately \$18,000 per month, for a potential gross biennial savings of around \$432,000.

#### Enhanced Video Conferencing Services

Since July of 2010, Ecology has invested approximately \$100,000 in its existing video conferencing infrastructure and operating environment. This investment was made to avoid travel costs, reduce the agency's carbon footprint, increase staff efficiency, and reduce overall costs. The demand for face-to-face meetings with internal and external public customers is steadily increasing. By using a standard calculation for travel savings and costs avoided, as well as feedback from video conferencing users, Ecology has increased staff efficiency and potentially avoided program spending of over \$500,000 since 2010.

#### Ecology Saves \$1.2 Million Over Five Years Through Virtualization

In 2010, Ecology launched a compute and storage virtualization effort to reduce operating costs and meet the Governor's GMAP objectives for server virtualization. In December 2010, Ecology had 115 physical servers located in Lacey. Ecology had reduced that to 36 by the end of September 2012.

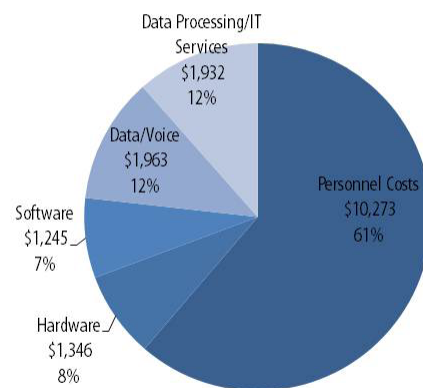
The initial investment for the compute and storage virtualization was \$400,000. The return on investment

IT \$: \$16.8 m

IT FTEs: 106.6 FTEs

IT as % of Agency FTEs: 7.1%

### Department of Ecology IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

period is expected to be approximately 20 months. Estimated savings over a five-year period are expected to be approximately \$1.2 million. These savings reflect cost avoidance in physical server purchases, related software licenses, and power and cooling costs. Savings were used for budget cuts, new services, and line of business investments.

### Children's Safe Products Act Online Reporting System

The [Children's Safe Products Act Online Reporting System](#) was created to implement the reporting rule required by The Children's Safe Product Act (CSPA - Chapter 70.240 RCW).

Beginning in August 2012, manufacturers of Chemicals of High Concern to Children must report:

- Which product categories contain these chemicals.
- The maximum concentration of the chemical within the product.
- The chemical's function.

Here are some examples of how the online reporting system is used:

- A retailer of children's products in Washington, such as Wal-Mart, can access CSPA to electronically report the concentration ranges in the products it sells.
- A citizen of Washington might search for the presence of chemicals of concern within products he or she plans to purchase, such as disposable diapers.

### HR Information Portal

In 2011, the Ecology HR Information Portal was developed to provide employees with online access to personnel information and leave balances as a convenient means to link together information from three different sources: the state's Human Resources Management System (HRMS), Ecology's Automated Leave Form (ALF) system, and Ecology's Employee database. Since the portal was released, Ecology has received a steady stream of praises and compliments from users across the agency because of increased efficiency.

Benefits from using the portal:

- Employees can check their leave balances online. This saves time and reduces errors. The number of leave corrections declined by 50 percent after the HR Portal was released.
- Supervisors can check employee leave balances before taking action on leave requests. When Temporary Salary Reduction (TSR) leave was introduced, calls to payroll soared. The HR Portal reduced the call volume to where it was before TSR. As an estimate, if the employee and supervisor each saved an average of only two minutes on each leave request, the HR Info Portal saved Ecology 5,000 staff hours during this year, allowing staff to focus on higher value work.
- Supervisors make better decisions because they use the HR Info Portal to find information such as anniversary date, representation status, and overtime designation of their employees.
- Other HR web-based resources are better used because Ecology employees use the HR Info Portal to remind them of their personnel number and links to other useful HR sites such as Employee Self-Serve.

### Toxic clean-up site info – online application for public access to information

In 2011 Ecology deployed the [Generated Site Pages](#) (GSP) online application that generates a public “site page” based on information from the agency’s internal Integrated Site Information System (ISIS) that tracks activities related to toxics clean-up sites. In the past, Community Outreach & Environmental Education Specialists (COEES) staff created the site content and passed it off to a web master who created static HTML web pages. There were about 500 static HTML “site pages.” The GSP project **generates** a site page for nearly all of the cleanup sites in the ISIS database (over 11,000 sites) by pulling information from several of Ecology’s information systems. The GSP application allows the COEES staff to directly manage the content for each of the cleanup sites contained in ISIS. This new approach has greatly increased staff efficiency while making cleanup site information more accessible to the public. Instead of contacting Ecology for site-specific cleanup information, users can access this information on the internet and view documents and reports associated with the site. By making cleanup data accessible to the public, TCP helps citizens and local and federal partners do business with Ecology.

### Air emissions inventory online reporting application

Permitted facilities and local air authorities are required to report air emissions data to Ecology on an annual basis. Historically this has been a paper submittal where Ecology staff would enter the data into an internal application. An online reporting application is now available where large facilities and local air authorities can submit their data electronically. In a later phase, smaller facilities will have access. This data is now accessible to the public and the time spent by Ecology staff entering the data can now be focused on higher value work such as analyzing the emissions, and looking for ways to positively impact air quality and health.

### Ecology’s electronic well construction notice of intent online application achieves 84 percent use rate in 2012

In 2008, Ecology launched an electronic notice of intent (notice) online application that allows well drillers to electronically notify Ecology of their intent to construct wells. Prior to this, Ecology staff were required to enter data manually and notified well drillers by U.S. mail that they could proceed to drill a groundwater well. The new online application and work process improvements reduced the time from when well drillers submit their request and receive notification by five to 10 days. Today, in most cases, it only takes one to two days to process a notice request allowing drillers to start work much faster than in the past. Staff time spent on data entry is now spent on higher priority well driller activities and projects such as licensing and training.

### Ecology’s Environmental Information Management System

[Ecology’s Environmental Information Management](#) (EIM) System is a suite of agency-wide database management and reporting applications used for managing more than 13 million environmental field measurements and monitoring results.

Environmental monitoring represents a substantial investment both in laboratory costs and field-staff time. Lab costs alone run from \$10 per measurement for the simplest tests to more than \$500 for more complex tests. Having an agency-wide system to manage these data protects this investment and makes the data readily available for use by everyone.

Several of Ecology’s functions rely on this system to analyze environmental data for agency policy development and decision making. A public-facing web site allows federal, state and local government, the public, academia, regulated businesses, environmental consultants, and others to search for and download this valuable environmental monitoring data.



For example, an environmental contractor might use data from EIM to assess the amount of lead and arsenic in soils near a parcel of land that a client is developing. If sufficient data is found in EIM, the land owner can avoid the high cost of collecting and analyzing soil samples. This re-use of over 13 million environmental measurements likely saves the taxpayers of Washington over \$1 million dollars per biennium.

## RECOGNITION

Department of Ecology's IT infrastructure (desktop, network, telecom, server operations) resides within the centralized IT team under a CIO. The CIO is well-respected and the program staff that depend on the central IT team trust the centralized IT team and are satisfied with the service that they are receiving.

The Ecology centralized IT team is disciplined and manages its responsibility with a weekly operations meeting to look at utilization and infrastructure performance metrics. The server infrastructure has been systematically virtualized and some of the early promises of private clouds are being realized by Ecology. Ecology's efforts in this area are a great example for CTS as CTS tries to develop its private cloud. The department's IT team should be commended for realizing \$2 million of savings over the past biennium. These include:

- **\$1,083,719** — Salary & benefit, travel, contracts, and goods and services cuts due to budget reductions.
- **\$287,624** — Print management savings. Implemented managed print services (renegotiated contract for lower rate and reduced the number of print devices by 75 devices). Ecology also worked with staff to educate them on the costs of printing which has reduced overall print costs.
- **\$218,227** — Infrastructure management savings. Conducted extensive license review to ensure that we are using what we are paying for. This resulted in reducing licensing costs, renegotiated SLAs and maintenance contracts to achieve the best value and change terms to multiple years to get a better discount — reduced SLA/maintenance costs implemented server virtualization (reduced number of physical servers, with 81 percent of Ecology servers virtualized), and migrated to e-mail shared services (this was pretty much cost neutral).
- **\$770,000** — The Department of Ecology has started retaining old desktops beyond their warranty period and that can be a savings — at least initially — since less money will be needed to buy new desktops. Time will tell whether this is an efficient practice since it is possible that the extra support costs for older computers may swamp the savings from not replacing them. Ecology can probably adopt technology business management practices to track costs of maintaining older machines vs. newer machines and use that as a way to decide how old PCs should be before they are replaced.
- **\$100,000** — Agency videoconferencing business savings achieved through IT investments in expanding agency videoconferencing capabilities. Travel and staff time savings achieved with this investment are estimated at \$100,000 to date. These savings are now available for other program activities. This is a great example of where investment can lead to savings.

As a result of these efficiencies, Ecology programs were able **re-invest** \$755,420 in savings to achieve additional IT services (additional programming and project management resources).



## ORGANIZATIONAL CONTEXT

There are 39 application developers and IT personnel who are not on the centralized IT team. They are currently split over 10 different program teams. This structure has evolved over time and the result is that program owners have a strong sense of connection to their IT team. In general, however, this may be a suboptimal structure, because these smaller IT teams are not going to be able to derive the benefits of a larger peer group for career growth, and the program leaders may not have the ability to understand whether or not they have the right kind of IT resources.

The Department of Ecology should look at merging application development personnel into one team so they have more opportunities to learn from each other and grow. It should also provide more opportunities for career development. This can be done without breaking the close relationship that application developers have with their programs today. Such changes also allow more sharing of best practices and talent across programs. Clearly such a change should not be made lightly. Several agencies such as ESD and the Department of Health have centralized application and infrastructure and it appears that such changes may be due now for Ecology.

## OPPORTUNITIES

Ecology is unhappy with the features of the new Integra voicemail service provided by CTS and is looking to replace this service with Voice Over Internet Protocol (VOIP) to reduce telecom costs and leverage unified communications technology in a more integrated fashion. Ecology would appreciate a statewide solution to VOIP and unified communications.

# RECREATION AND CONSERVATION FUNDING BOARD (RCFB)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### ORGANIZATIONAL CONTEXT

The RCFB has a small IT staff of 5 FTEs. The agency also provides services to the Puget Sound Partnership for servers, application hosting, and IT support. It is a good example of a small IT organization that has managed to do a great job meeting the business needs and has the energy and talent to stay current and explore contemporary technologies.

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**IT \$: \$1.8 m**  
**IT FTEs: 4.0 FTEs**  
**IT as % of Agency FTEs: 8.2%**

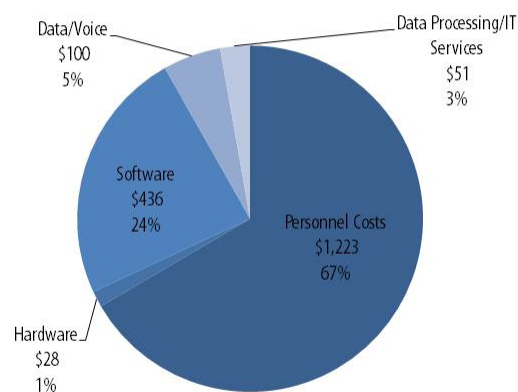
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### OCIO RECOMMENDATIONS

- RCFB uses a custom-built solution for grant management. Department of Ecology just purchased another solution. RCFB team should look at the solutions on the market and learn about alternatives every couple of years before continuing to invest in its custom-built solution. It is possible that off-the-shelf solutions may present an opportunity to increase the feature set — for example, there may be a need for an enterprise-wide grant management system but we have no such plans right now
- RCFB should seek to reduce cost for the Habitat Work Schedule system. The high pricing proposed by the vendor are hard to justify.
- RCFB has made good progress virtualizing its servers and it may be an ideal agency to run completely in the cloud — between SaaS and Infrastructure as a Platform, RCFB could aspire to have an IT organization that doesn't own a single physical server. Failing such a move, RCFB should seriously consider getting CTS to host its servers.

### Recreation and Conservation Funding Board

#### IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

# DEPARTMENT OF FISH AND WILDLIFE (DFW)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### RECENT SUCCESSES IN TECHNOLOGY

#### High Performance Computing in the Cloud (DFW)

The [Department of Fish and Wildlife](#) has reintroduced the fisher through a partnership of agencies and organizations. Project management was provided jointly by Washington Department of Fish and Wildlife and Olympic National Park. The U.S. Geological Survey, Washington Department of Fish and Wildlife, and Olympic National Park led a research and monitoring program to evaluate the success of the reintroduction. Many partners provided financial or logistical support for management and research.

The partnership has been responsible for monitoring reintroduction success and conducting research into fisher biology and ecology on the Olympic Peninsula. To achieve this objective, project biologists equipped each fisher with a small radio transmitter before it was released in the park. These transmitters allowed biologists to monitor fisher movements, survival, home range establishment and reproduction. This information was used to track the success of the fisher restoration project. The field portion of the research and monitoring project associated with the reintroduction was completed in December of 2011, which was when the last of the radio-collars ran out of battery power. Biologists are currently analyzing data collected during the project to evaluate its success and to determine how fishers moved once they were released, how long they survived, where they established home ranges, which habitats they selected, and how successful they were at reproducing.

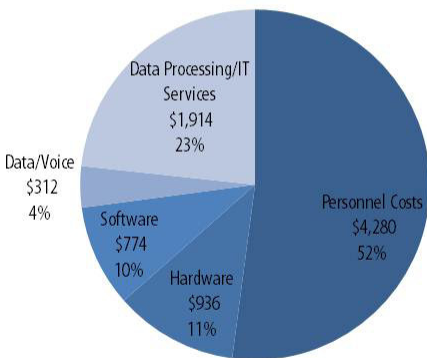
The actual work of identifying the fisher established home range is through the complex mathematical and geospatial models based on the tracking data from the individual collars. Using the existing traditional approach of performing this work on “power PCs” was projected to take nearly three months of time and labor to complete. Also considered was purchasing a high-end server costing \$10,000 for the project to perform this analysis. Through a wildlife program and IT partnership, cloud computing alternatives were explored to leverage services that make compute power available on an hourly basis. As an experiment and a proof of concept, this home range analysis was put into the cloud. The end result was the analysis was successfully performed taking a total of five hours and costing less than \$10 in rented compute capacity.

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**IT \$: \$8.2 m**  
**IT FTEs: 48.43 FTEs**  
**IT as % of Agency FTEs: 3%**

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**Department of Fish & Wildlife**  
**IT Spending – Dollars in Thousands**



Source: 2012 IT Portfolio Data (submitted by agencies)

There are many needs for scientific computing capacity within DFW that include home range analysis of many monitored species, fish genetic analysis, and salmon assessments to name a few. The potential to use hourly compute power to significantly reduce the costs, increase the capability, and speed of performing this work is too great to pass up. As a result, the department created a “cloud” computing position to partner with the biologists.

### **Lean device management**

The Department of Fish and Wildlife has approximately 1,600 FTEs and has a significant seasonal workforce, which results in the hiring and release of about 1,000 staff throughout the year. One of the impacts of this condition is the demand and pressure put on device management (desktops, laptops, mobile, etc). The device management process had frequent issues with service delivery, which included a backlog of requests exceeding 400, some staff having to wait up to six months to get the right PC, inventory management completely overwhelmed, and backlog of surplus equipment sometimes reaching over 30 pallets to be wiped, packaged, processed, and shipped.

Although device management is often dismissed as a trivial activity, it is actually one of the most important IT business processes in an organization. The primary method for employees to communicate, interact with peers, get direction, build product, or deliver services is dependent on their access to reliable and appropriate computing resources. The speed and accuracy of this process to get the right tools into the hands of employees matters. Nearly every hour an employee is without a computer is an hour of lost productivity.

The department has been investing in Lean practices and device management is one process that went through a Lean makeover. The IT department completely changed how devices are managed by making these fundamental changes to the process.

As a result of the changes, employees now consistently get the correct and fully loaded machine with proper software by the next day. Rush requests can be fulfilled within two hours including all special software or within 10 minutes if only standard software is needed. Agency backlog is dropping rapidly and expected to be completely eliminated within the next couple of months. The inventory of equipment is now kept to minimum levels with no more than a month’s worth of normal activity to keep costs and rework to a minimum.

There is more work to be done especially with the remote locations. The next step in this incremental improvement journey is to improve the speed and accuracy in deploying devices in locations that are often hours from the nearest major town.

## **RECOGNITION**

DFW is leading the state in seeking new and creative solutions and in adoption of SaaS solutions for Service Desk and Contract Management, adoption of cloud platforms and experimentation with mobile platforms

## **ORGANIZATIONAL CONTEXT**

DFW has systematically put in place IT practices that allow it to execute with discipline on a variety of challenges. This includes:

- A dashboard that tracks operational metrics
- Zero-based budgeting
- Governance that helps prioritize agency IT projects

DFW's IT team is focused on delivering value to the business team rather than on counting costs. The DFW server environment is highly virtualized (at 75 percent). DFW has found that it helps to track the time spent by each IT employee on tasks since that enables program areas to understand the impact of their requests and helps them prioritize their requests.

DFW is hurting due to higher costs of storage from CTS. CTS is focused on decreasing storage costs. There is still a substantial backlog of issues — particularly disturbing was the fact that the backlog for fixing desktop issues is still multiple months.

A very important issue for DFW is the loss of the CIO since he is moving to become the state deputy CIO. Overall, this is another example of poaching between state agencies, which highlights the importance of bringing new talent into state government and establishing competitive salary ranges. The worry is that many of the initiatives that the DFW CIO put in place may not have time to take root.

# DEPARTMENT OF AGRICULTURE (AGR)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### RECOGNITION

The Department of Agriculture should be commended for its initiative in adopting laptops and cellular data networks to make field agents more productive in the field.

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**IT \$: \$3.8 m**  
**IT FTEs: 20 FTEs**  
**IT as % of Agency FTEs: 2.7%**

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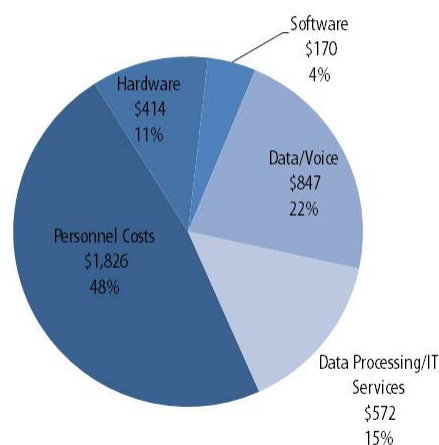
### ORGANIZATIONAL CONTEXT

The Department of Agriculture has 14 FTEs in the central IT organization and 6 FTEs performing IT functions spread out among several organizations, yet working in the same headquarters building.

Department of Agriculture's CIO has worked hard to stay informed of the latest in IT and has delivered valuable IT services and with innovative applications while spending comparatively small amounts of money on projects that have been fresh and innovative.

The governance team for IT (IT Board) can probably be re-energized by adopting a dashboard of operational metrics that the board looks at systematically and periodically to ensure that the level of IT services is satisfactory. Many agencies such as Department of Corrections, Transportation and ESD use this kind of dashboard approach to track and improve operational metrics and provide visibility, which increases confidence among stakeholders that IT is responsive and customer focused. This kind of approach can also build confidence in the programs that have to give up their IT staff and responsibilities to central IT.

### Department of Agriculture IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

### OPPORTUNITIES

The department has a highly mobile workforce. Telecommunications costs represent a high proportion of Agriculture's IT budget and we encourage the agency's IT team to look carefully at whether we are getting the best pricing for networking connections. We also recommend a review of whether cell phone costs can be reduced by adopting a personal device stipend policy or cell phone bill optimization software. Blackberry costs are fairly high compared to a stipend approach. As a result of our recommendation, the agency is currently in the process of finalizing agency policy allowing a personal device stipend. To further reduce telecommunications spending, the agency is actively implementing Wi-Fi capabilities at headquarters and regional offices. This very inexpensive move will allow the agency to reduce data plans with carriers, thus lowering costs.

The Department of Agriculture has an arrangement with DNR to bring together its IT production environments for server hosting. This has been done partially in response to the external pressure on land-use agencies (AGR, DFW, DNR) to find efficiencies working together. However, it appears that this hasn't happened even though substantial time (a year) has passed.

This may present an opportunity for Agriculture to look at the comparative costs of hosting servers in a virtual server environment with CTS. This also means that Agriculture should move forward with virtualizing its production servers since there are currently 30 physical servers that if virtualized could provide the same quality of service at lower costs and provide a better opportunity for disaster recovery capabilities.

We'd like to encourage Agriculture to systematically start looking at IT spending along the lines of value delivered and cost incurred by programs and strategic areas. This kind of discussion at the executive level will allow executives to reprioritize how they prioritize IT spending.

## OCIO RECOMMENDATIONS

We strongly recommend that Agriculture centralize the IT function since this is a fairly small IT workforce overall. This will require top agency leadership support and a strong governance structure and should result in optimizing IT spending. We also recommend that the agency consult with the Department of Health since that agency went through such a consolidation effort recently.



# STATE PARKS AND RECREATION COMMISSION (PARKS)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### RECOGNITION

Parks is to be commended for taking the initiative to work with NoaNet to access federal stimulus funding to create 100MB-1GB connections to 16 parks. But more needs to be done, including getting higher access speeds and mobile phone carrier services to park sites. Parks could develop alternative approaches and in working with vendors.

Parks has also installed solar wireless automated pay stations in some locations, which has helped for revenue collections and some Parks personnel have hand-held credit card readers where that can be used where wireless is available.

Despite a shrinking budget, Parks' digital strategy is extending communications and services to the public using social media tools, mobile web and mobile application technology.

Parks installed a public Wi-Fi hotspot in Cama Center State Park on Camano Island. The Wi-Fi has proven very popular with park visitors and has resulted in additional sales of the Discover Pass.

### ORGANIZATIONAL CONTEXT

The State Parks and Recreation Commission is undergoing a transformation from a tax supported to a primarily user fee based business model. The OCIO supports the agency's direction for increased IT spending to support its new business requirements.

Parks management faces a business need to bring connectivity to more than 100 park sites. The public increasingly expects to have continuous connectivity (Wi-Fi, broadband, or cellular) especially as they travel with their smart phones and tablets. Parks, as a tourist and business destination provider, is correct in identifying this as an important technology objective.

### OCIO RECOMMENDATIONS

- Parks should work to improve the identification of IT costs and cost drivers and focus on opportunities for reducing IT costs and redirect savings (and added IT investments) to areas that increase revenues.

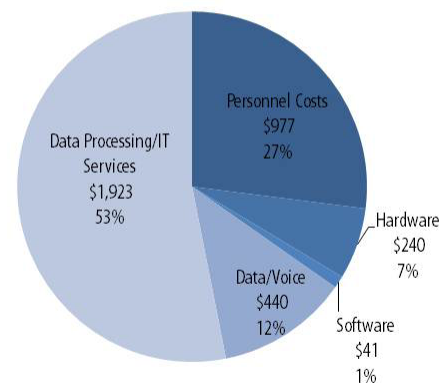
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**IT \$: \$3.6 m**  
**IT FTEs: 10.0 FTEs**  
**IT as % of Agency FTEs: 1.5%**

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### State Parks and Recreation Commission

#### IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

- State Parks' new business model supports changing the role of IT to be more like the private sector, where IT is not just a support function but an important element in the success of the organization. We suggest Parks:
  - » Review current vendor agreements for online reservations and Discover Pass sales. There are alternative models that may reduce cost and improve revenues.
  - » Evaluate alternative lower cost desktop software and email services. If feasible, consider piloting viable alternatives.
  - » Develop a digital strategy to leverage, produce and provide services based on value to the customer
  - » Rethink the customer's park experience to include greater connectivity and online presence.
  - » Increase deployment of paystations and optimize placement location based on customer needs and on data-driven revenue enhancement expectations.

The parks department should embrace TBM & BPM (Business Project Management) tools to model their own IT costs and to perhaps also model all costs from the parks so the executive management of the Parks & Recreation Commission can allocate resources to areas that are most capable of generating revenue. Currently it is hard to estimate which areas exactly are consuming resources.

# DEPARTMENT OF RETIREMENT SYSTEMS (DRS)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### RECOGNITION

The Department of Retirement Systems analyzed and decreased mainframe costs and saved \$250,000 a year by shifting work off the mainframe.

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**IT \$: \$8.7 m**  
**IT FTEs: 57.5 FTEs**  
**IT as % of Agency FTEs: 26.0%**

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### ORGANIZATIONAL CONTEXT

DRS operates in a very Lean manner. The cohesiveness with which the director, deputy and CIO operate is great and there is recognition that the business of DRS is inextricably linked to IT.

### OPPORTUNITIES

There has been a thoughtful effort to plan for a step-by-step upgrade of the Employer Information System. OCIO supports the investment because:

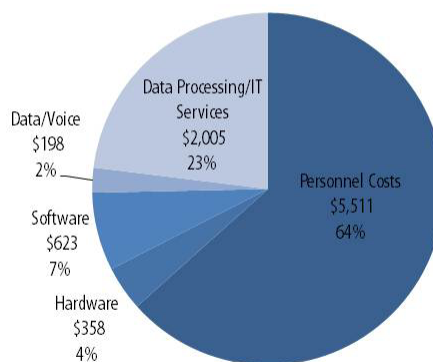
- This is an important upgrade for the business — the current code base is old and there will be increasing demand for a better, less error-prone and easier to use system for exchanging information with about 1,300 Washington employers.
- It is important to replace legacy step by step and this is an important first step in that direction. Failing to start now can result in an unsustainable DRS system over time. We don't want to be the last system on Natural and Cobol.
- There has been very thoughtful planning and change management.
- Testing, compatibility and architecture have all been thought through.

DRS should show a roadmap of proposed changes over the next two to three biennium that result in replacing the legacy software it now uses to run the agency — so there should be no surprise when DRS goes back to the Legislature a couple of more times.

### OCIO RECOMMENDATIONS

- DRS should continue its good work and look for more maintenance and operations improvements. Increased and accelerated virtualization may be one area to explore since DRS still has substantial physical server footprint
- DRS should look at commercial off-the-shelf systems and see if one of them may serve the agency's needs. Ask the top vendors to do demos and present their value proposition.

**Department of Retirement Services**  
IT Spending — Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

- DRS should consider providing a periodic statement to employees that captures the hours worked and dollars earned so there is less of a need to make corrections down the road.
- DRS needs to work with CTS and OCIO to project out mainframe costs over the next few years

# DEPARTMENT OF FINANCIAL INSTITUTIONS (DFI)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### RECENT SUCCESSES IN TECHNOLOGY

- Moved licensing of Payday Lenders, Check Cashers/sellers, Money Transmitters, and Currency Exchangers to a National Registration system. The National system provides daily feeds of activity and automation to complete the licensing, renewals, and amendments in the agency's systems.
- Replaced a time-consuming manual system with a system that lets money services providers (like Western Union, or Money Gram) manage their authorized delegates online, including the payment of fees. There are over 11,000 of these service providers doing business in the state.
- Expanded the automation of Mutual Fund registration and amendments. This once highly intensive manual process is now almost completely automated.
- Fully integrated the agency's imaging system and database system and built plug-ins for all the MS Office products so staff can easily save a Word and Excel documents, or email messages into the imaging system including full indexing. These imaged documents are immediately available through our database system. This change has been well received by the users.
- Completely virtualized every server than can be virtualized. Went from 46 physical machines to just 14 physical machines. This will ready DFI for migration to the cloud where and when it makes business sense.

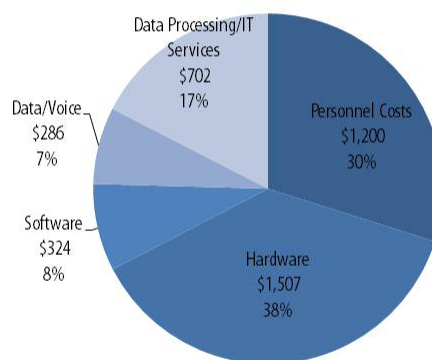
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**IT \$: \$4.0 m**  
**IT FTEs: 9.0 FTEs**  
**IT as % of Agency FTEs: 4.9%**

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### Department of Financial Institutions

#### IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

A January, 2013, implementation is planned for two new online applications:

- Online registration and amendments for Franchises (i.e., McDonalds, or 7-11).
- Replacement of a manual system of filing and calculation of annual assessments due from consumer loan companies with an electronic process. This will calculate how much these companies owe DFI and will accept online payments using e-checks or credit cards for smaller amounts.

### RECOGNITION

DFI applied Lean exercises to improve business processes before attempting to adopt a content management solution. Going forward, DFI will apply Lean tools, looking carefully at current business processes before making technology improvements.

## OPPORTUNITIES

- DFI is well positioned to adopt Technology Business Management tools and practices based on its good record-keeping practices.
- DFI continues to implement a VDI solution to replace desktops and looks forward to working with CTS to improve performance in the VDI environment.
- DFI has a good disaster recovery story but needs to periodically test. DFI should participate in penetration test security exercises and work with the OCIO office to do that.

# WASHINGTON STATE INVESTMENT BOARD (WSIB)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### RECOGNITION

The Washington State Investment Board (WSIB) has one of the best disaster recovery practices of any agency in the state. The WSIB has a remote location that is always ready and is actually used once every quarter to test the backup solutions. Their solution for disaster recovery will probably be improved even more if they move their backup location to Eastern Washington — a different geological zone than Olympia — instead of keeping it in Western Washington.

The WSIB has recently had a very thorough security audit and again appears to have a considerably more advanced approach to security than many state agencies.

### ORGANIZATIONAL CONTEXT

The State Investment Board has been on a journey over the past nine years that has taken it from an agency that had minimal analytics and no online trading to one that has substantial technology investments today. Interestingly, this hasn't taken a large amount by way of capital investments. For IT positions, the WSIB has been able to hire and retain people from state agencies and the private sector.

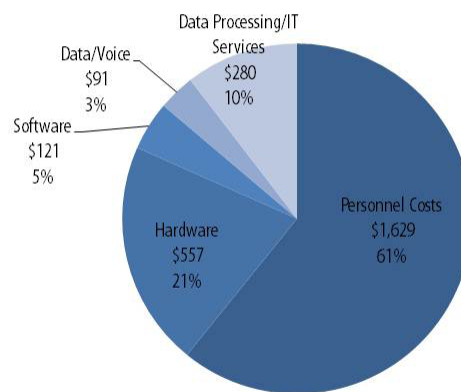
The IT operation takes the initiative in using IT to meet the agency's business objectives, and the WSIB may explore more SaaS and cloud solutions in the future.

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**IT \$: \$2.7 m**  
**IT FTEs: 8.0 FTEs**  
**IT as % of Agency FTEs: 9.6%**

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### Washington State Investment Board IT Spending — Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)



# UTILITIES AND TRANSPORTATION COMMISSION (UTC)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### ORGANIZATIONAL CONTEXT

UTC's budget decision making is similar to many agencies and is based on looking at historical data. UTC leadership has been taking an enlightened approach to examining and understanding cyber security of utilities that it regulates. There is a lot of work ahead but we are fortunate to have UTC's enlightened approach in this important area.

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**IT \$: \$1.6 m**  
**IT FTEs: 12.0 FTEs**  
**IT as % of Agency FTEs: 8.8%**

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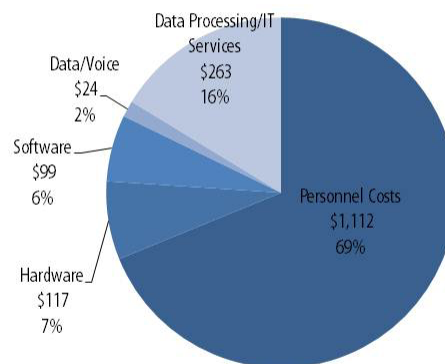
### OCIO RECOMMENDATIONS

- Most of the energy in the IT team is focused on making the migration from a suite of Lotus Notes-based custom applications to a newer architecture. An early attempt at doing this failed and there is ongoing litigation. It is important for the IT team to systematically use Lean, put the previous failure behind and propose a new path forward. We think that there are many case management solutions out there and it is likely that one of the leading SaaS solutions can provide a solid foundation on which to build. We recommend the following steps:
  - » Play with SaaS solutions.
  - » Consult Gartner to get an overview of the state of the world for case management solutions.
  - » Roll out new solutions step by step and generate end user value at each step.
  - » Consult other state governments to find out what new solutions have been put in place recently that work.
  - » In parallel, run a LEAN process to systematically improve business processes as they stand today and see if you can eliminate requirements that may no longer make sense (such as needing a paper copy of everything).
  - » If legal authority does not exist for electronic document substitution for paper, work with the Governor and Legislature to propose statutory change solutions. The agency should also explore coordinating with the Office of Administrative Hearings, which is interested in a statutory fix to solve a similar problem.

Overall, generating a good path forward with regard to the replacement of the case management application should be the primary focus of the IT team so that the recent failure can be replaced by success. IT leadership should experiment with and learn about the options available.

### Utilities and Transportation Commission

#### IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

# MILITARY DEPARTMENT (MIL)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### ORGANIZATIONAL CONTEXT

Military Department state funds make up only a small fraction of overall IT spending by the Washington National Guard.

The way Military's budget is allocated and spent is complex, consisting of a mix of federal and state funds in numerous categories. There are several areas where budgets and spending decisions are siloed today as a result of the way funds are allocated – Air, Army, Emergency Management and the Washington Youth Academy.

Washington's National Guard has the responsibility and the capability for being a leader and service provider to State and Local agencies for cyber security. There are currently some pilot efforts in place to test out the thesis that Washington's National Guard can provide high-end consulting services to state agencies and the expectation is that we will institutionalize this relationship. The National Guard should also continue to lead efforts to bring together private industry (e.g., utilities), state government and local government to drive cyber security policy and response issues, as well as enhance overall statewide cyber emergency preparedness.

Various state agencies have evolved a very functional system for governance of enterprise-wide IT decisions and for prioritization of IT spending. These governance structures have business as well as IT leadership participation. This is the direction that Washington National Guard is headed and we support and encourage this direction.

### OPPORTUNITIES

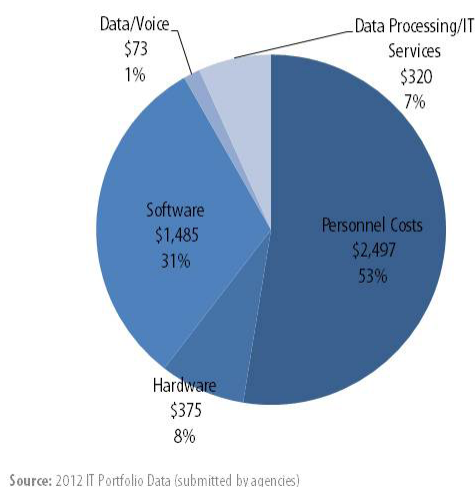
Currently there is little to no visibility of this spending within the Military Department as an enterprise. IT spending in the Military Department is not centrally managed, as each division within the agency has its own budget lines. This leads to "haves" and "have nots" within the agency. The Military Department CIO is working to remedy this situation through the use of Lean processes. Also, the IT infrastructure and decisions of the Army National Guard are driven by Army infrastructure priorities set at the federal level, and the Air National Guard is driven by Air Force priorities likewise set at the federal level. Attempts to find National Guard efficiencies will have to be carefully thought through. We think that Washington's efforts to drive IT transparency by adopting tools and processes for Technology Business Management from industry can probably be adopted by the National Guard as well. This may be timely since there are likely to be

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**IT \$: \$4.7 m**  
**IT FTEs: 29.0 FTEs**  
**IT as % of Agency FTEs: 8.7%**

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**Military Department**  
IT Spending – Dollars in Thousands



budget pressures on overall spending sooner rather than later. Overall, it appears that there are opportunities for improvement.

Finally, the use of technology for Emergency Management is primarily left to local jurisdictions and that may well be appropriate. However, there may be an opportunity here for the National Guard to be taking a leadership role by looking at adoption and use of emerging technologies for emergency preparedness.

# DEPARTMENT OF VETERANS AFFAIRS (DVA)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### ORGANIZATIONAL CONTEXT

Department of Veterans Affairs (DVA) is a very lean agency with minimal management and administrative and IT staffing. Hence DVA has merely six IT employees supporting an organization with almost 800 employees. These IT employees are stretched and are almost 100 percent focused on maintenance and operations today.

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**IT \$: \$1.2 m**  
**IT FTEs: 6.0 FTEs**  
**IT as % of Agency FTEs: 0.9%**

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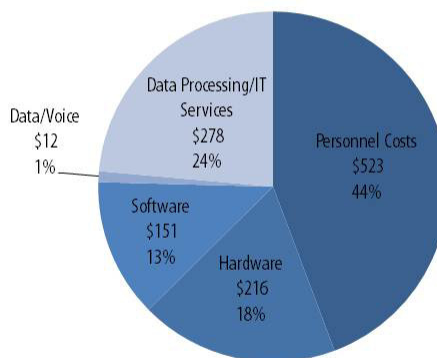
One important responsibility of DVA is running the long-term care centers in many different parts of the state. This comprises nearly 600 of the employees. DVA executive leadership is leading a LEAN effort to improve the operation of long-term care centers.

DVA faces many challenges and has fallen behind contemporary technology in many areas. These include:

- Some of the systems are old and paper based. For example, the pharmacy system runs on VMS, which isn't currently actively supported and the company that created it (DEC) has vanished. DVA has purchased and is in the process of implementing a new pharmacy system called QS/1. This system will be vendor-hosted and will replace the old VMS-based pharmacy system.
- There are no or minimal electronic patient and medical records.
- A system called ADL was adopted in 1998 and while we are using it for several services such as financials — it isn't clear that we have exploited all its available modules. Further, we host and run it by ourselves and we don't really have the IT capacity to maintain a larger set of modules with current staffing.

DVA tracks its day-to-day IT results using an operations dashboard. This is a good practice and perhaps it can be augmented by calling out spending metrics that indicate which programs/areas are getting what fraction of IT dollar spending today.

### Department of Veterans Affairs IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

## OPPORTUNITIES

DVA has a real need to modernize the Time, Leave and attendance (TLA) systems in these centers and was unable to focus on that area and instead focused on patient admissions. They are now very eager to take on Time, Leave and attendance and would like to be at the head of the queue in trying out the new enterprise wide TLA by beginning a LEAN exercise in February 2013. They have the advantage of being motivated as well as being able to deploy it in small groups of employees, one long-term care center at a time. OCIO will jump start the discussion between DES and DVA to see if DVA can indeed be high up in the queue.

## OCIO RECOMMENDATIONS

- We strongly recommend that DVA carefully observe how DSHS and Corrections — both of which have substantially more IT staffing — modernize its medical care IT infrastructure and see if there is any opportunity to leverage those experiences or procurements.
- We also strongly recommend DVA consider SaaS systems for its modernization of long-term care facilities, even if that means stepping away from current investments so that the IT team can focus on application rather than server support.
- DVA has a dozen servers and we worry that DVA has no access to specialized IT security staff. The hosting environment for DVA isn't properly reflective of production needs, but DVA has been forced to stick to what it has because it hasn't been able to afford the high price of server hosting in centralized IT. However, we now have a new approach in CTS to make server hosting be affordable and deliver high customer satisfaction. The OCIO recommends that DVA virtualize its servers and get reasonably priced server hosting from CTS.
- DVA should track its network spending and check to see that the costs and bandwidth for connecting to its long-term care center reflect the best deal available on the market today. CTS is in the process of a LEAN effort to ensure that this will happen as part of the process.
- It is likely that young veterans coming from combat zones are very technology savvy and probably access DVA's web site using smartphones. DVA should know how many people are accessing its web sites using smartphones and lay out a plan to become smartphone friendly. It is already beginning experimentation along these lines by working with a non-profit to develop a smartphone application (VAP)
- DVA currently uses paper to track its clients who reach out to DVA and need help navigating the federal Department of Veterans Affairs benefits packages. It is likely that the judicious adoption of technology will help track cases when veterans reach out to DVA. What exactly DVA and its contracted non-profits do in this regard is unclear to OCIO, but we recommend that DVA look at this process and evaluate where there may be value in adopting case management systems

## OFFICE OF ADMINISTRATIVE HEARINGS (OAH)

### CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

The Office of Administrative Hearings (OAH) is an important agency that handles administrative appeals from people who are unhappy with a specific state government agency decision. Most cases come from ESD and DSHS and contain highly confidential information.

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**IT \$: \$1.3 m**  
**IT FTEs: 8.0 FTEs**  
**IT as % of Agency FTEs: 4.8%**

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OAH is a small agency with a small IT team and many of the problems of small agencies such as old systems that need updating and a comparatively stretched IT staff that has to juggle a wide variety of tasks. OAH has recently had turnover and a new IT leadership.

OAH does not have an operational dashboard that allows the IT and executive leadership to systematically look at problem areas and drive improvements. We urge them to implement such a dashboard and institutionalize the practice of systematically and formally looking at important service metrics monthly.

### OPPORTUNITIES

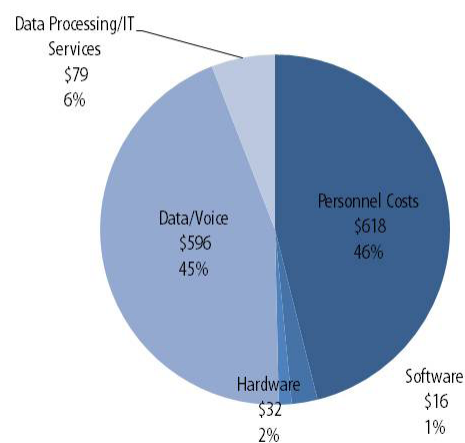
OAH appears to have unnaturally high telecom costs. We urge OAH to work with CTS or a privately hosted solution to examine whether they are getting the best prices and bandwidths for its money. They should also work with CTS to examine whether the cost savings of conferencing services in the market have indeed been realized by WebEx contracts. If not, it may be time to look for alternatives if there is not a drop in prices.

OAH recently purchased a new helpdesk software solution. The enterprise should standardize one helpdesk software solution to make it easier to move tickets back and forth between agencies while maintaining visibility.

OAH IT may want to get out of the business of hosting its own servers and move to a CTS-hosted solution at a comparable price. This will allow OAH IT to focus on delivering great services for the agency while having infrastructure work handled by CTS. This is already in motion with the new case management server being slated to be hosted at CTS. We urge them to continue down this path.

OAH field office systems have a slow response time and the new IT leaders quickly debugged the reason for this (wrong configuration of the terminal services client). Now that this has been debugged, we urge OAH IT to quickly improve the situation for all field offices and to incorporate metrics for field office IT services into its operational dashboard.

**Office of Administrative Hearings**  
**IT Spending – Dollars in Thousands**



Source: 2012 IT Portfolio Data (submitted by agencies)

## OCIO RECOMMENDATIONS

- OAH is in a unique position to improve service and reduce costs by taking advantage of widely available technology but for the statutory obstacles. We strongly recommend that OAH pursue legislative changes to allow for the option of email or other electronic distribution methods.
- OAH is strongly encouraged to virtualize and move all or most of its servers to a private- or CTS-hosted solution so OAH IT can focus on delivering value at the application layer.
- OAH has begun the replacement of three legacy case management systems that are hard to use and built on old technologies. The replacement is expected to decrease costs of maintenance and operation as well as make the processes for handling cases substantially more efficient and decrease paper that is copied and handled. It should free up people who can be redeployed to other, more productive task. The overall time needed to process cases should shrink. We suggest OAH:
  - » Aggressively (but thoughtfully) decommission the old case management systems instead of continuing to invest hardware and software into them.
  - » Systematically and explicitly capture the savings by assigning people to new roles in places where there is a need.
  - » Invest in learning about IT-related change management and use these lessons to bring about change.



# BOARD OF INDUSTRIAL INSURANCE APPEALS (BIIA)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### ORGANIZATIONAL CONTEXT

BIIA has a Lean IT staff of 8 persons and maintains, modifies and runs its IT infrastructure including servers, desktops and network. BIIA has had an increasing workload of appeals on decisions made by Labor and Industries (LNI) for workers' compensation and is up to 14,000 appeals a year.

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**IT \$: \$1.3 m**  
**IT FTEs: 8.0 FTEs**  
**IT as % of Agency FTEs: 5.5%**

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Judges get initial information and determine jurisdiction by using the Orion system from LNI and then use a case management software system that was written in 2000 and has been maintained and modified to meet new requirements entirely by in-house staff. The agency has three in-house programmers who keep its critical business system operating and are doing so economically. BIIA's operational approach may be an interesting case study of how it is possible for agencies to provide appropriate, mission-critical IT services without bringing in a contractor or outside programming team. The downside is that they are probably not capable of losing two or three key IT staff without significant disruption to operations over time.

BIIA operates a document management system based on web pages and a file server that is used to store and retrieve all internally generated documents. This is also a good case study of using something simple that meets its needs. Instead of buying expensive document management software, BIIA stitched together a perfectly pragmatic solution that works for them and is easy to maintain.

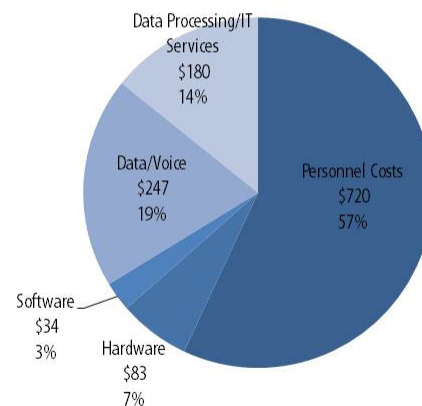
Judges are spread across multiple offices in the state but Seattle, Tacoma and Yakima are the only locations with an SGN connection. Other locations make do with an internet connection and VPN.

BIIA has had a substantial increase in business teams' satisfaction with its IT services after putting in place a robust governance structure composed of senior IT and business staff. This seems to be a key characteristic of happy and functional collaborations of IT and business teams in the State.

BIIA doesn't have a robust disaster recovery plan. This is a common pattern across most agencies in state government.

### Board of Industrial Insurance Appeals

#### IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

## OPPORTUNITIES

BIIA leases all its desktops/laptops today. They have not yet virtualized any of their servers but plan to begin virtualizing their servers and taking it from 15 physical servers to 5 physical servers in order to reduce costs. We recommend that the agency seriously explore the comparative cost of hosting servers at CTS.

## OCIO RECOMMENDATIONS

BIIA still runs Exchange 2003 because the case management system and Exchange/Outlook are tightly coupled using scripts that are incompatible with Exchange 2010. Getting off Exchange 2003 and moving to shared email should be made a priority since Exchange 2003 is a very old system and lacks many of the features of modern email systems.

# LIQUOR CONTROL BOARD (LCB)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### ORGANIZATIONAL CONTEXT

Liquor Control Board (LCB) has been through wrenching changes because of the recent initiative that took this agency out of the role of selling liquor to a role of a regulator that issues permits and ensures that regulations are followed.

LCB lost almost 60% of its IT staff, including most of its application developers. It has a need to invest in a more modern and robust application for its permit process. This is all the more important as marijuana has become a controlled but legal substance in the state.

### OPPORTUNITIES

LCB is currently exploring using GIS systems to determine if a permit application is legal. This is a promising use that may save the state time and money in examining a permit application.

### OCIO RECOMMENDATIONS

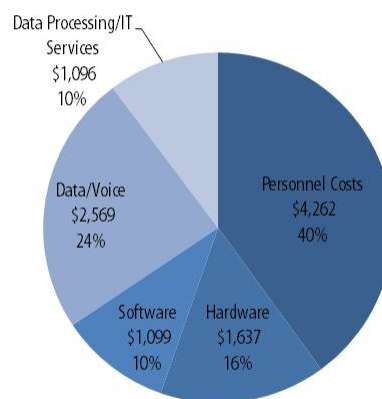
- If LCB acquires a significant number of new staff or functions it should also enhance the IT team to rebuild their capacity and strengthen their skill sets as necessary.
- LCB should consider moving its entire server footprint to CTS so that the smaller IT team can look to rebuilding its skills and putting in place a new software system to enable more efficient permitting of liquor licenses.
- LCB should explore sharing office space for regional offices with a larger related agency like DOR so that field officers can have better IT infrastructure.
- LCB should embrace hosted or SaaS solutions where possible so that there can be a focus on applications instead of maintaining and running servers.
- LCB should explore all possible COTS solutions with demos, presentations and vendor meetings arranged in parallel with rebuilding of the IT team so when the time is right, it will be possible for LCB to formulate a detailed and informed requirements document for an RFP.

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**IT \$: \$10.7 m**  
**IT FTEs: 41.9 FTEs**  
**IT as % of Agency FTEs: 3.4%**

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**Liquor Control Board**  
IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

# WASHINGTON STATE GAMBLING COMMISSION (WSGC)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### ORGANIZATIONAL CONTEXT

WSGC is an enforcement and regulatory organization with seven IT employees and eight IT FTEs with IT job designations who work in the “Electronic Gambling Lab” to test gaming machines. There are approximately 26,000 gaming machines in operation at the state’s 28 Indian reservations. All these machines and entities depend heavily on technology that is verified at the gambling lab. There are about 2,000 gaming organizations. WSGC has 33 servers and are gradually virtualizing them as a physical server reaches end of life.

The small size of the IT team makes it hard for WSGC to rapidly adopt new technologies (for example adapting their enterprise application so that they are made available on iPads and iPhones and smartphones in general).

The broad sweep of technology has made it possible for any citizen to indulge in online gambling. State and federal policies will find it increasingly difficult to stay ahead of the technology changes. WSGC is correct in watching this issue area closely as other states begin to push forward with legalized online gambling. According to the Commission, Nevada will probably be the first state to go active with intrastate poker.

### OPPORTUNITIES

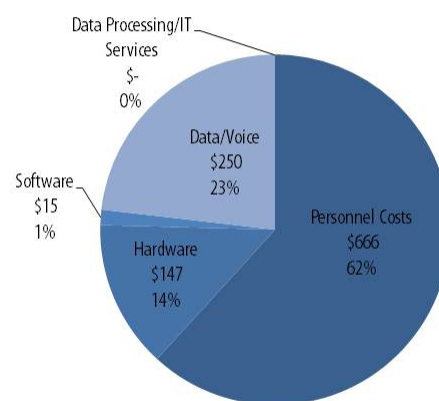
In general, WSGC and other such small agencies should probably be getting services from centralized IT. Right now, there isn’t trust that this will be economical and serve their needs promptly. Also WSGC may be overpaying telecom costs and OCIO will help understand if this is the case.

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**IT \$: \$1.1 m**  
**IT FTEs: 7.0 FTEs**  
**IT as % of Agency FTEs: 4.8%**

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### Washington State Gambling Commission IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

# STATE LOTTERY COMMISSION (LOT)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### RECOGNITION

Lottery has made progress virtualizing and dropping costs of servers.

### ORGANIZATIONAL CONTEXT

Online gaming is now very popular. All services are accessible online in the private and public sector. The fact that Lottery tickets cannot be purchased on phones and PCs and the advent of online gaming can mean a slow and steady drop in Lottery revenue. Lottery is wise to continue its monitoring of this issue.

Most of the IT expenses of Lottery come from the vendor contract for the lottery game and this is up for renewal in a few years. It would be good if this issue of online purchase on tickets were resolved by then.

Lottery needs a new financial package. It is important that we take the opportunity to treat this effort as a pilot for replacing AFRS. Accordingly, it may be valuable to pick a strategic vendor and solution that we can learn from and inform our overall statewide financial system replacement.

### OCIO RECOMMENDATIONS

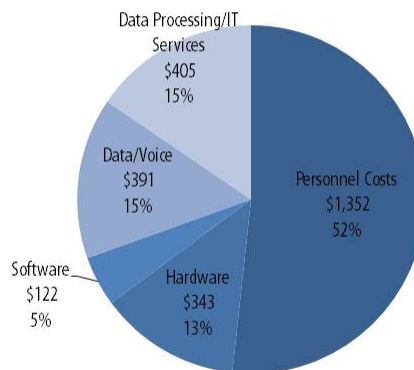
Lottery should coordinate with the OCIO and DES. We recommend that Lottery hire third-party expertise to help it prepare the RFP and ensure that the requirements are captured in detail.

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**IT \$: \$2.6 m**  
**IT FTEs: 14.0 FTEs**  
**IT as % of Agency FTEs: 10.6%**

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### Washington State Lottery IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

# STATE BOARD FOR COMMUNITY AND TECHNICAL COLLEGES (SBCTC)

## CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

### ORGANIZATIONAL CONTEXT

The SBCTC maintenance and operations budget (self-reported across the 34 colleges) is about \$75 million.

Currently, there isn't visibility or benchmarks into whether this IT budget is being spent efficiently, except at the individual institution level. However, the SBCTC team finished an efficiency study last year that looked at overall administrative efficiency and concluded that the SBCTC system needs a new administrative system that the CTC link project aims to deliver. There are many (more than one per college on average) shadow systems that could likely be eliminated once the CTC link system is put in place over the next few years.

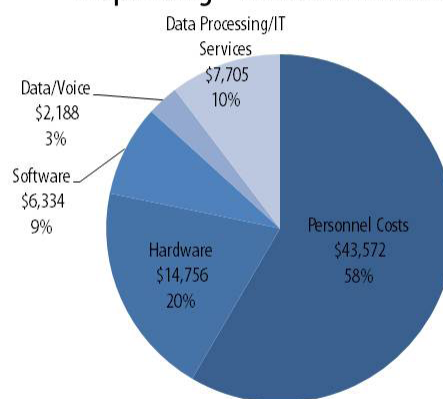
We urge the SBCTC team to take a serious look at adopting TBM tools and processes in a few colleges and for the SBCTC central IT team. We understand that the focus right now is on CTC link, but it may be a good idea to begin adoption in a few months or a year once the CTC link project is firmly under way. SBCTC can learn from adoption of TBM tools in other state agencies and the University of Washington.

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**IT \$: \$74.6 m**  
**IT FTEs: 637.0 FTEs**  
**IT as % of Agency FTEs: 3.0%**

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### State Board for Community and Technical Colleges IT Spending – Dollars in Thousands



Source: 2012 IT Portfolio Data (submitted by agencies)

### RECOGNITION

Education is being transformed by technology in several ways — through online education, by enabling students to get lectures from top university professors and by tools on computers, tablets and phones that enable students to learn at their own pace.

SBCTC framed a strategic technology plan a few years ago and is executing on this plan. A few of the areas where it has made systematic progress are:

- **Open Course Library** – SBCTC faculty members are developing open materials for 82 of the state's highest-enrolled courses. These materials, including textbooks, are available for free online under an open license for use by the state's community and technical colleges, four-year colleges and universities, and anyone else worldwide. Forty-two courses are complete and available, with the balance scheduled for completion by spring 2013.
- **E-Learning/Online Learning opportunities** — In 2011-12, 38,889 community and technical college student FTE's, or one-quarter of all enrollments, were served through E-Learning, an increase of 140 percent since 2007. More information on E-Learning can be found on the SBCTC website.

In 2011-12, the community and technical colleges and the four-year institutions collaborated on an RFP to find a common learning management system. The product selected was Canvas, produced by Infrastructure. Canvas is a cloud-hosted software as a service. Colleges are now migrating to Canvas from existing LMSs. As a large consortium, SBCTC was able to secure a favorable contract and share professional development, training, and programming.

- **Western eTutoring Consortium:** 27 Washington community and technical colleges collaborate with Washington State University, Eastern Washington University and 14 other institutions in six states to provide eTutoring for their students. SBCTC is the administrator and fiscal agent for this consortium.

Other technology collaborations in SBCTC include:

- All colleges participate in an online reference librarian consortium.
- All colleges use Blackboard Collaborate, an online conferencing system.
- 33 colleges use Quality Matters, an instructional design tool for online courses.
- 34 colleges use Tegrity, a lecture capture system available to all students.

## OPPORTUNITIES

There may be an opportunity for smaller colleges to use Hosted/SaaS/Cloud solutions. The bigger colleges may still need servers that they have on campus, but it is likely that smaller colleges can start systematically and incrementally moving to SaaS and Cloud solutions so they will have no need to run in-house servers. We encourage the SBCTC team to work with a couple of colleges to test the feasibility and desirability of such an approach.

### Administration and Student System Replacement (ctcLink)

**Project Start:** October 2010

**Project Finish:** December 2016

Current administrative and student systems are antiquated, having been developed with IT technology from the early '80s. OCIO has approved a \$50 million certificate of participation to update SBCTC administrative and student systems.

ctcLink is the implementation of a single, centralized system of online student and administrative functions that will give students, faculty, and staff access to modern, efficient way of doing their college business. It includes a new set of integrated software tools for student administration, academics, student finance, college financials, HR/payroll, and data/reporting. Concurrent with the implementation of the new system, all colleges will redesign and align current business processes with streamlined, standardized practices.

Benefits for students include a more common educational experience across the system, whether they transfer from one college to another or attend two or more colleges at once. They will have one, common student ID and use common online tools for all their college business from admission to graduation.



## OCIO ANALYSIS OF PROJECT

The CTC's are doing an excellent job of staffing and managing the project. They have used outside consulting to assist in the feasibility study and develop a very extensive RFP. Working very closely with the OCIO, the RFP included proposal requirements that are innovative for the state. These would improve the cash flow requirements and encourage the vendors to consider 'Software As A Service' in their solutions.

The process of selecting a vendor included representation from all the colleges. Demonstrations were done by the three finalists. Each demonstration lasted a week.

With support from the state CIO, two finalists were selected. This gives the state leverage in negotiating the final contract.

SBCTC worked with the Office of the Attorney General to select an attorney with extensive experience in negotiating higher education systems contracts.

During this process the CTC project management is filling out the project team with qualified staff. The top two proposals in the SBCTC procurement process had Oracle's PeopleSoft application suite as an integrated solution.

One lingering worry is that all three core applications are Oracle Peoplesoft solutions. This means that SBCTC may well end up picking a software stack that was first released in the late 1980s (although updated over time) and perceived as a very old software system. There is now a challenger, as well as Oracle itself, promoting the much more modern Oracle Fusion software suite. SBCTC should ensure that it isn't among the last institutions to adopt a software solution about to become obsolete. It should hedge its bets where possible so that it can upgrade to a more modern suite aggressively and without needing to spend another big chunk of money.

### How Project Advances the Current IT Strategic Plan

The ctcLink project will make it much easier for students and employees of the community college system to get their work done. It will provide benefits to teachers, students and administrators.

## FOUR-YEAR UNIVERSITIES

Overall, four-year universities are not interested in having OCIO be the office that provides oversight over their maintenance & operations spending. They do approach OCIO for approval of their major projects. University of Washington has stepped up and adopted the same technology business management toolset as the rest of the state, but the other universities have not shown any inclination. There is quite a bit of fear about being transparent about M&O spending in general because IT leaders are worried that top-down decisions may be taken without thoughtful discussion. Given the overall distrust of Olympia in the IT community of four-year universities, should we consider a different model of providing oversight?

# WASHINGTON STATE UNIVERSITY (WSU)

## CORE STUDENT INFORMATION SYSTEMS REPLACEMENT PROJECT (ZZUSIS)

WSU initiated the project to replace its ailing legacy student system with a new student module from a current ERP system. The approach was to issue an RFP looking at options to buy off the shelf and implement the software using an integrator to install. Other options considered were to buy off the shelf and host the system outside. The key principle in selecting the system was to be able to implement it without software modifications. Oracle was selected to implement and operate the student module of the university's higher education PeopleSoft ERP.

### *OCIO Analysis of Project*

This project has been well run throughout its life cycle. Key factors leading to the project's success include:

- Vanilla implementation — This practice was adhered to.
- Strong Governance — The university leadership provided 100 percent support to the project team. Oversight committees were established and staffed with a complete cross section of university's executives.
- Strong project management with the vendor on site
- Staffing of a highly experienced project team made up of consultants who knew the PeopleSoft Student System combined with the university's best subject matter experts.
- Separate facilities for the project staff to work and communicate.
- Celebrated successes, and often.

Even though the project schedule was tight, the team met its deliverable dates and completed the go-lives in time for the fall 2012 school year.

A few issues were encountered which the project team was able to address. Some problems were encountered with the financial aid module during registration. The university developed a work-around while the problem was fixed. It turned out to be a programming glitch combined with a need for some additional user training.

The system is providing the planned benefits, which were to replace a failing legacy system, improving and automating the student's experience during their enrollment with the university.

### *How Project Advances the Current IT Strategic Plan*

The Zzusis project advances the state's IT strategic plan by moving forward on legacy system replacement, and adopting system hosting.

## OTHER SIGNIFICANT TECHNOLOGY PROGRAMS

### OFFICE OF FINANCIAL MANAGEMENT'S EDUCATION RESEARCH AND DATA CENTER (OFM ERDC)

#### CIO'S CONVERSATION, OBSERVATIONS AND RECOMMENDATIONS

##### ORGANIZATIONAL CONTEXT

In February 2009, the Legislature directed the ERDC (ESHB 2261) to take all actions necessary to secure federal funds to accomplish a group of longitudinal P20W data tasks. To this end, the ERDC applied for a grant from the U.S. Department of Education. In May 2010, the ERDC was awarded a three-year, \$17.3 million American Recovery and Reinvestment Act (ARRA) grant to develop a P20W Statewide Longitudinal Data System (SLDS) to facilitate the efficient generation of P20W data. Under the grant, the ERDC established its P20W Program to accomplish the activities laid out in its [grant proposal](#). The goals of the ERDC's P20W Program include strengthening P20W data governance and research and reporting, constructing a P20W data warehouse, increasing interoperability with data contributors and strengthening the source systems.

The main project under the ERDC's P20W Program is the creation of the P20W data warehouse. ERDC has partnered with DES to develop and implement its P20W Data Warehouse. The goals of this project are to:

- Make P20W data more available and accessible
- Improve P20W data quality
- Ensure P20W data security and compliance with FERPA and other privacy laws
- Increase the efficiency with which P20W data is produced
- Provide for superior maintainability and sustainability of the system and data

Two additional P20W grant-funded projects that support these goals include setting up the P20W data governance structure and processes, and performing P20W research and reporting to better understand stakeholder needs around the data and inform the data warehouse requirements. Unlike K-12 reporting which has scores of federal and state K-12 mandated reports, P20W has no reporting requirements or standards at the state and federal levels. P20W is still a new and mostly unexplored area for research and reporting. Washington leads the nation in its ability to provide data and perform research across the education and workforce sectors.

##### PROJECT SPOTLIGHTS

###### ERDC P20W Data Governance

To date, the project has stood up the most extensive data governance structure in the state and accomplished the following:

- Drafted and received signature on a memorandum of understanding between the ERDC and the contributors of P20W data as to how data will be shared and used.

- Enacted [data-sharing agreements](#) with the core P20W data providers, including the Department of Early Learning, the Office of Superintendent for Public Instruction (OSPI), the State Board for Community and Technical Colleges (SBCTC), each of the six public baccalaureate institutions and the Employment Security Division.
- Stood up the P20W Research Coordination Committee, Data Stewards work group and Data Custodians work group with P20W data contributors

In addition, the P20W Data Governance project will continue to work with the P20W community and accomplish the following under the P20W Grant:

- Develop a process utilizing LEAN methodology for P20W data requestors – 4/30/2013
- Develop an approach to prioritize data requests and applications – 5/31/2013
- Develop an ERDC internal request tracking process using existing OFM-owned software and LEAN methodology – 6/30/2013

Post procedures, data-sharing agreement template and policies to the ERDC website – 6/30/2013

This work is being performed to meet data governance deliverables under the P20W Grant by a portion of a current ERDC staff member.

### ERDC P20W Research and Reporting

To date, ERDC and P20W Grant staff on this project have accomplished the following research and reporting deliverables using current processes to help inform the requirements of the P20W data warehouse:

- Produced the 1st and 2nd Annual P20W Report to High Schools
  - » 2008 – 2009
  - » [2009 – 2010 and revised 2008 – 2009](#)
- Produced two research briefs
  - » [Postsecondary Enrollment Patterns](#)
  - » [Who Leaves Teaching and Where Do They Go?](#)
- Produced the [Employment Data Handbook – A Guide for Incorporating Employment Information from a State Unemployment Insurance Program \(UI\)](#) Into a P-20W Longitudinal Data System
- Produced three data sets for other organizations' research reports
  - » GEAR-UP (Gaining Early Awareness and Readiness for Undergraduate Programs)
    - Completed and provided to SESRC (Social and Economic Sciences Research Center) which published [Making the Dream A Reality](#)
  - » Department of Social and Health Services
    - Identity Matched and linked millions of education records from multiple sources for 1.4M DSHS clients
    - With this data set, DSHS produced the first of five report deliverables under the [High School Outcomes for DSHS Served Youth](#) grant

- » University of Washington Researcher Data Set
  - Identity Matched and linked over 2 million education and workforce records with additional data pending
  - This data set becomes the basis at ERDC for many subsets of data needs

In addition, the P20W Research and Reporting project intends to accomplish the following deliverables under the P20W Grant to inform P20W reporting requirements using current processes:

- Two Additional P20W Reports
  - » 1st Annual P20W Report to the Community and Technical Colleges – Spring 2013
  - » 1st Annual P20W Report to Baccalaureates – Spring 2013
- Three Additional Research Briefs
  - » Teacher and School Characteristics
  - » Longitudinal Outcomes of a Cohort of 9th Graders
  - » Extended Longitudinal Track of High School Cohort
- Two Additional Data Sets for other organizations' research needs
  - » MESA
  - » New Futures

This work is being performed by four P20W Grant-funded FTEs and ERDC staff time totaling two FTEs.

### ERDC P20W Data Warehouse

The ERDC has partnered with DES to host, develop and provide project management for the P20W Data Warehouse. The P20W Data Warehouse project is chartered to deliver a longitudinal, research-based data warehouse. The approach taken is not typical of other data warehouse projects. The ERDC and DES staff are working closely together to make sure business rules are addressed and data validation is occurring at each step of the process instead of using the more traditional approach of loading all the data into the data warehouse first and validating afterward. Experience has shown that when data are not validated until a later time, the users will lose trust in the data warehouse and it is difficult to regain their confidence.

To date, the project has:

- Contracted with a Data Warehouse and Data Modeling Technical expert
- Documented Business and Technical Requirements
- Developed a longitudinal P20W data model that includes:
  - » Staging Area – 62 tables
  - » Identity Matching Data Warehouse – 108 tables
  - » Operational Data Store – 14 tables
- Purchased hardware and software architecture, including McAfee SIEM log aggregation and auditing security enterprise-wide software that DES will be able to use to support other state organizations

- Obtained data from six data sources representing 44 organizations and 31 source files and performed data readiness (analyzing, profiling, cleansing) and data mapping
- Contracted with Informatica for Data Quality, Data Movement, Identity Matching and Master Data Management (MDM) Tools and Expert Services
  - » MDM is an enterprise-level tool that DES will be able to use to support other state organizations
- Begun training on Informatica tools
- Begun planning the schedule of the installation of Informatica tools and the implementation of the extract, transfer and load of the P20W data

The project is currently baselining the remainder of the work and schedule with Informatica software tools and services obtained in November 2012. Planning with Informatica is under way and a baseline schedule will be completed by early December 2012. Currently, the project anticipates accomplishing the following benefits in 2013:

January	Complete training for ERDC and DES staff in the use, operation and management of selected tools to automate processes that are being performed manually by ERDC staff, increasing productivity of staff.
February	<ul style="list-style-type: none"> <li>• Centralize all the identity matching data in one easy-to-access location and automate the identity match process using Tools.</li> <li>• Identity matching tool and data are available for ERDC use for current data requests. ERDC will use automated tools to perform and manage identity matching which eliminates the current manual process. This will significantly increase the productivity of the ERDC staff and reduce the time it takes to respond to requests for data.</li> </ul>
March	Automate loading Achievements, Enrollments and Events data, which will provide the same significant reduction in time to ERDC staff as automating the Identity Matching process.
April	Financial reporting capabilities in the data warehouse will be available. This information has not been available previously to the ERDC and expands the ERDC's ability to answer questions requiring financial data.
May	The OSPI SLDS data should be available to ERDC in April and incorporated into the ERDC data warehouse by end of May. Currently the ERDC receives, stores and maintains hundreds of files from OSPI that are used for research and reporting. This new approach will significantly reduce the amount of time ERDC staff spend on managing, tracking, and cleaning the OSPI data before it is used for research and reporting.
June	<ul style="list-style-type: none"> <li>• The loading of ERDC's core data into the data warehouse will be automated from Data Source -&gt; Staging -&gt; Operational Data Store -&gt; Star Schemas -&gt; Cubes -&gt; SharePoint Site with the ability to quickly adapt to changing business rules and data sources using the ETL tool.</li> <li>• The Partner SharePoint site will become available to researchers with data-sharing agreements and contain access to redacted ERDC core research data.</li> <li>• Complete the "P20W Report for CTCs" cube and use it for data validation. This cube will help ERDC demonstrate that the P20W DW can produce useful and high-quality reports for the CTCs and other public two-year institution stakeholders.</li> <li>• Complete the "P20W Report for Baccalaureates" cube and use it for data validation. This cube will help ERDC demonstrate that the P20W DW can produce useful and high-quality reports for the baccalaureates and other public four-year institution stakeholders.</li> </ul>



BUDGET CATEGORY	Current OCIO Approved Budget*
Staff (salaries & benefits)	\$1,184,997
Contracted services	4,432,575
Hardware	410,000
Software	1,580,011
Travel	7,500
Training	50,000
Other (Indirect Costs, Interoperability)	421,818
TOTAL	\$8,086,901

*\*This represents the approved budget from February 2012; the budget is under revision and will be provided to OCIO.*

## OCIO ANALYSIS OF PROJECT

In September 2011, a third-party implementation study recommended that OFM ERDC's P20W Program employ a [Commercial-Off-The-Shelf \(COTS\) P20W data warehouse](#) supplied by Choice Solutions as its data warehouse solution. The ERDC moved forward with this recommendation and subsequently signed a sole-source contract with Choice Solutions in February 2012. By May 2012, it became clear that the product was not going to meet the business and technical needs of the ERDC. The P20W Program Executive Steering Committee decided to terminate Choice Solutions for convenience and pursue an in-house build of the data warehouse with ERDC, DES staff and COTS data automation software tools and expertise.

While this course-correction consumed time in the schedule, it was the right thing to do for the state. It was accomplished swiftly, without loss of momentum to the project, as the P20W Data Warehouse project immediately began the contracting process to acquire software to automate the Data Movement, Data Quality and Identity Matching processes. Additionally, the project team remained focused and continued moving forward in the resource-intensive activities of preparing the source data that will reside in the P20W data warehouse.

Currently the project team has built the models and tables for the P20W data warehouse staging area, identity matching data warehouse and operational data store. The core of the data models is stable while the overall models continue to be refined and improved as the team continues to map data sources to them. With the contracting of the automation tools from Informatica completed and most of the hardware in place, the project team is now working diligently with Informatica to finalize the architecture details and schedule for installation. The ERDC is positioned to move forward rapidly to install the software tools and begin automating the processes surrounding the data and loading the data into the data warehouse. This approach allows the ERDC to begin using the system and loaded data along the way to support its ability to get data to stakeholders more efficiently and faster.

# K20 EDUCATION NETWORK

## ORGANIZATIONAL CONTEXT

Founded in 1996, the K-20 Education Network is a visionary solution to a unique convergence: the advent of the statewide broadband transport network; the diverse needs expressed by all sectors of the educational community; and the state's will to build a single, reliable, cost-effective solution. The result is the nation's first high-speed, high-capacity network linking colleges, universities, K-12 school districts and libraries statewide and providing video and data services to education facilities located throughout the state. The K-20 Network helps ensure access to rural Washington and levels the playing field for all students and entities regardless of geographic location.

The K-20 Network is built upon the principles of enterprise-wide technical environments. This allows the use of the same technology backbone or software applications across multiple institutions. Instead of separate databases and systems for each school district and community or technical college, common in other states, the K-20 Network enables institutions to centralize administrative functions using the same applications across the K-20 Network. These applications include student information systems, back office applications such as financial systems, human resources systems, and payroll. The network also makes future large-scale shared-services information systems initiatives possible. As new applications are developed that require high bandwidth, the K-20 Network will expand and grow alongside the increased demand.

As reported in a 2011 State Auditor's Office (SAO) performance assessment report, the K-20 Network operates on a voluntary and cooperative model. Unlike many government shared-services models, schools are not required to participate (and must pay to do so) and can seek alternatives at their discretion. The K-20 Network does not prioritize or enforce how the network is used and leaves that responsibility to the local education institutions. The K-20 Network is financially supported both by the state and users. The state provides about \$8 to \$10 million each year to help maintain the K-20 Network. Users also provide annual co-payments amounting to about \$3.5 million. In addition, expenses are offset by the Federal E-rate program, a national subsidy for telecommunications and information services for education in amount of about \$5 million each year.

The SAO performance assessment report found that the majority of the K-20 Network is outsourced through competitive bids and that hardware and equipment are purchased through competitive bids with the private sector. In 2012, nearly 30 different vendors provided services to the K-20 Network. The SAO concluded that this public-private model ensures that funding is provided only to the most competitive local providers, while maintaining state oversight and management of operations.

Overall, the K20 Network meets its statutory mandate by enabling about 500 schools, community colleges, universities, and libraries to connect to each other and to the Internet. The network is used for instructional purposes and back-office functions and is especially beneficial to small and rural school districts by providing access to a high-capacity, high-speed network that would not otherwise be available at a reasonable cost.

## OPPORTUNITIES

According to the SAO 2011 performance assessment of the K20 Education Network, the K-20 Network is extremely fast and expansive by today's standards. The report highlights that network backbone uses the latest networking technologies including dense wavelength division multiplexing (DWDM). The high-speed and high-capacity feature of the DWDM technology allows the backbone to be upgraded by simply adding new hardware into the networking equipment and making the appropriate configuration. The current backbone supports 10Gbps. By the end of 2013 the backbone will support 40Gbps. This creates incredible opportunities for education and general government entities into the future.

## OCIO RECOMMENDATIONS

The K-20 Network is unique and a model for other governments that need to develop network infrastructures and other technology services. The K-20 Network's technological platform and cooperative business model has the potential to serve as the foundation for additional service delivery initiatives.

- The value of the K-20 Network has expanded beyond basic connectivity to new and innovative applications. These could include: Expanding telemedicine programs to more health care institutions throughout the state, developing a statewide network of specialized teachers for distance education, using the K-20 Network to promote collaboration and distance learning initiatives with other institutions across the nation.
- The Legislature should continue to support technology and the K-20 Network as a tool to help level the education playing field through enhanced use of video conferencing and distance education.
- The K-20 Network should continue to provide greater technical support to education groups that want to pursue innovative uses of the K-20 Network for education service delivery.
- The K-20 Network should work collaboratively with other public service providers to develop a strategic plan that incorporates a long-term vision for the K-20 Network and operational plan to achieve that vision.
- The K-20 Network should provide more frequent reports performance and usage metrics and services provided by the program. These reports should be used to keep the community informed on the value of the K-20 Network.
- We believe that there are substantial savings to be had by having the K-20 network buy bandwidth for the "last mile" at wholesale rates rather than buy it retail. We strongly recommend that K-20 explore this path and lock in savings for this upcoming biennium.

# STATE INTEROPERABILITY EXECUTIVE COMMITTEE (SIEC)

## ORGANIZATIONAL CONTEXT

The State Interoperability Executive Committee is responsible for developing policies and recommendations for the OCIO regarding technical standards for state wireless radio communications systems and emergency communications systems in including statutory Project -25 requirements. Since its creation in 2005, a specific focus of the committee has been to address and advocate for the interoperability of existing and future systems and technologies. The SIEC coordinates the licensing and use of state-designated and state-licensed radio frequencies including the spectrum used for public safety and emergency communications serves as the point of contact with the Federal Communications Commission (FCC) regarding the allocation, use, and licensing of radio spectrum. The SIEC has served as the primary entity to seek state and federal funding for wireless communications systems and foster cooperation and coordination among public safety and emergency response organizations and work with wireless communications groups and associations to ensure interoperability among public safety and emergency response wireless communications systems.

Current law establishes the State Interoperability Executive Committee (SIEC). The committee is a multi-disciplinary group comprised of state and local representation. State appointments shall include appointments from the Departments of Transportation, Natural Resources, Military, Office of the Chief Information Officer, State Fire Chief (Marshal), State Emergency Management, and Washington State Patrol. Local members shall include appointments representing city and county, local fire chiefs, police chiefs, county sheriffs, and local emergency management directors. Voting membership may not exceed fifteen members. The CIO has responsibilities to appoint members to the committee and appoint the chair of the committee from among the voting members.

## OPPORTUNITIES

In February 2012, Congress enacted [The Middle Class Tax Relief and Job Creation Act of 2012](#). This act contains provisions to create a Nationwide Public Safety Broadband Network (NPSBN) intended to address public safety interoperable data and communication needs into the future. The law's governing framework for the deployment and operation of this network is intended to be based on a single national network architecture, public-private partnerships, and governed by an independent authority known as the "First Responder Network Authority" (FirstNet) Board of Directors.

This act is unique in that FirstNet will hold the nationwide spectrum license for the network, and is charged with taking "all actions necessary" to build, deploy, and operate the network, in consultation with federal, state, tribal and local public safety entities, and other key stakeholders. The act provides \$7 billion in funding toward deployment of this network, as well as \$135 million for a new state and local implementation grant program administered by NTIA to support state, regional, tribal and local jurisdictions' efforts to plan and work with FirstNet to ensure the network meets public safety communications needs.

It is anticipated that FirstNet will manage the state and local implementation grant program in two phases. The first phase will likely focus on initial planning and consultation activities, including strategy and timeline development, meetings, governance planning, and outreach and education efforts. The second phase will not begin until FirstNet has consulted with the state designated contact about the matters listed in the act. These include defining coverage needs, user requirements, and network hardening and resiliency requirements. The

second funding phase will also address states' needs in preparing for additional consultation with FirstNet and planning to undertake data collection activities.

## OCIO RECOMMENDATIONS

Tribal, local, and state entities in Washington should use the coordinated planning and stakeholder involvement approach embodied in the SIEC. This will leverage the existing statutory authority and historical success working with prior federal grants to improve interoperability. The OCIO recommends the following:

- Designating the SIEC as the single governmental body to serve as the coordinator of the grant funds.
- Designating the SIEC to be responsible for determining the method of consultation between FirstNet and the State.
- Enabling the SIEC to collect input from local and tribal jurisdictions to ensure that their public safety needs are adequately represented during the consultation process with FirstNet and in the coordination of the grant funds.
- Enabling the SIEC to review and identify how the state will leverage their existing governance structures in the PSBN consultations.
- Expanding the expertise of the SIEC to include representatives with an understanding of broadband and Long Term Evolution (LTE) technology to facilitate their consultations with FirstNet.

## **APPENDIX 1 – STATUS OF 2012 ACTION ITEMS**

### **ACTION 1: SECURE CRITICAL STATE GOVERNMENT SERVICES AND ENABLE THEM TO CONTINUE FUNCTIONING AFTER A DISASTER.**

We have a proposed Security Decision Package that we urge the Legislature to fund. Although in the original strategy, this action step focused more heavily on disaster recovery, recent data breaches in Utah, Texas and South Carolina have underscored the high cost of failing to secure data held by the state. The OCIO is working closely with the state's Chief IT Security Officer and the Military Department to develop an action plan for enhancing the state's cyber security.

Several agencies have been identified as having a need for a comprehensive disaster recovery plan. The most critical agencies to date are the Washington State Patrol, Department of Corrections, and the Department of Health. These agencies provide services that are most needed during a time of natural disaster or other emergencies. The Department of Health is currently migrating key systems to a geographically disbursed set of data centers. Unlike the Department of Health, the Washington State Patrol and the Department of Corrections are not geographically disbursed. As we make further progress on the use of public and private cloud technology, this problem may become more manageable and less cost prohibitive. However, at this time, Washington state government is badly exposed to the consequences of IT systems being degraded or destroyed by a disaster in the Olympia area.

### **ACTION 2: IMPROVE ACCOUNTABILITY AND INSIGHT INTO TECHNOLOGY INVESTMENTS.**

Significant progress has been made on this action item. The State is implementing a technology business management program, using Apptio software that aggregates various technology costs and usage data and creates models to provide information and insight into how an agency technology is being utilized to allow better informed investments and changes.

### **ACTION 3: ENCOURAGE ADOPTION OF PUBLIC CLOUD PLATFORMS WHERE APPROPRIATE.**

Several agencies such as the Department of Transportation, Department of Fish and Wildlife, and the Department of Enterprise Services have been experimenting in the use of public cloud services. The Department of Transportation is using public cloud services to respond to spikes in traffic camera viewing during a weather event to allow them to continue to provide service to citizens when it's needed the most. The Department of Fish and Wildlife is using public cloud services to perform scientific analysis and modeling more quickly and cheaply to increase scientific capabilities. The Department of Enterprise Services is using public cloud services to make the public HR site available in a geographically dispersed way while lowering costs. Although agencies are beginning to make small agreements with cloud providers, the state has not yet negotiated purchasing relationships with cloud providers. However, master contracts with cloud providers are expected to become available through with Western States Contracting Alliance by the end of the year.

A broadband grant enabled agencies using GIS technology to better share big data across state government and with the public. This, in turn, helped 11 agencies save on disk storage space while deploying 15 critically needed imagery and cache services in the past 12 months. Publication of some of this information occurs through the state's cloud publishing platform in the form of public and state collaborative web services.



#### **ACTION 4: ENCOURAGE ADOPTION OF SOFTWARE-AS-A-SERVICE (SAAS) FOR APPLICATIONS PURCHASED BY STATE AGENCIES WHERE APPROPRIATE.**

Several agencies have begun exploring the use of SaaS as a method for fulfilling their business needs. Current and upcoming applications include Customer Relationship Management, Employee Performance Evaluations, Contract Management, Telecom Expense Management, IT Service Management, and Permitting to name a few.

However, OCIO has not published guidelines for selecting and managing SaaS solutions. Further DES and CTS need to work together to make it possible for a single sign-on solution for authentication. Currently each SaaS solution needs a separate login and password. This, combined with the plethora of login and passwords needed for solutions within the state, make for a confusing and less secure solution than we would like.

#### **ACTION 5: ADOPT ENTERPRISE RESOURCE PLANNING (ERP) APPLICATIONS SYSTEMATICALLY AND INCREMENTALLY IN ORDER TO ENABLE WASHINGTON TO FUNCTION AS A COHESIVE ENTERPRISE.**

The state will be releasing a request for proposals to evaluate ERP applications meeting the needs of Time, Leave, and Attendance tracking for agencies. We are also going to have an opportunity to sample a SaaS financial solution while adopting a new financial package for the Lottery Department. There have been several internal discussions about how and when we will be able to invest in a full-fledged statewide ERP solution and we have talked to many vendors, seen demos and understood the pros and cons of various solutions.

By all accounts, such a major upgrade will need the full backing of the Governor and substantial funding, and we are deferring it to the next biennium while making progress in our understanding of new technologies with smaller projects as outlined above.

#### **ACTION 6: CONSOLIDATE WHERE APPROPRIATE TO DRIVE SAVINGS AND DELIVER IMPROVED SERVICES.**

The shared email initiative, which puts the majority of state agencies on the statewide shared email system, has been completed with great success. Consolidated Technology Services also implemented an alternative mobile email service, ActiveSync, to enable more mobile device access to the shared email in addition to the Blackberry service. Cloud-based email through the Microsoft Office365 service offering was also evaluated and determined that the product did not yet meet the state's needs, particularly around vaulting and e-discovery. However, the other products like SharePoint and Lync for video conferencing may add value and will be evaluated separately. A strategy for implementing a common Wi-Fi solution is still being developed.

#### **ACTION 7: ADOPT PRIVATE CLOUD PLATFORMS ACROSS AGENCY TECHNOLOGY TEAMS TO ENABLE EASY MOVEMENT OF WORKLOADS ACROSS POOLS OF SERVERS.**

The creation of private clouds will enable the state to use its servers more efficiently and they should enable the state to implement effective and affordable disaster recovery solutions that will actually work. Several agencies are positioned to start implementing private cloud technologies because they have virtualized a substantial percentage of their servers — Ecology, Health, Transportation and Corrections, for example. More work needs to be done to implement private clouds in agencies such as CTS, DSHS, Labor and



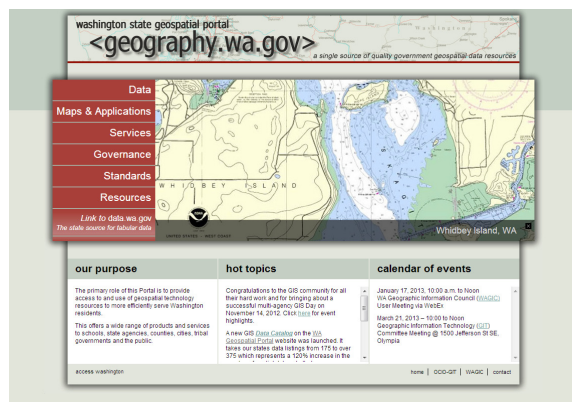
Industries, and DES. These agencies together have a large server footprint and could benefit from a private cloud in the future. To move forward in this arena, these agencies should start to systematically and rapidly standardize their server environments as an essential first step towards creating private clouds.

## ACTION 8: EFFICIENTLY MANAGE ALL OF THE STATE'S SUITABLE DATA CENTERS.

CTS is preparing the State Data Center for operations. More work is needed to begin treating all data centers as a joint resource. CTS is the agency best positioned to take on this role.

## ACTION 9: ENCOURAGE STATE AGENCIES TO SYSTEMATICALLY FREE UP DATA (INCLUDING GEOSPATIAL INFORMATION) FOR PUBLIC CONSUMPTION.

Agencies continue to discover the value and benefits of making their data easily accessible. The [state data site](#) now has over 300 data sets and continues to grow. Providing simple tabular data allows citizens to see the data as a heat map. The example to the right shows the location of liquor stores throughout the state. The State Geospatial portal continues to grow, now with more than 375 sets and applications available for the general public.



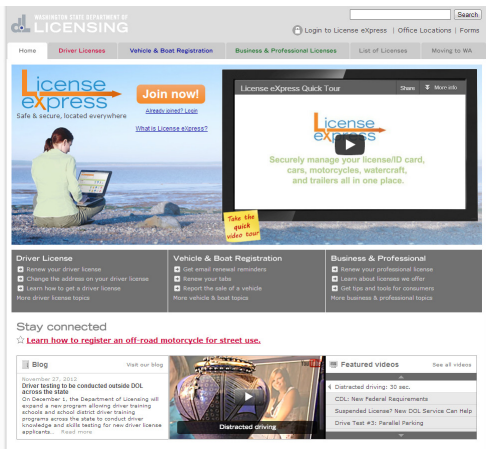
Geospatial data access continues to improve across state government. By leveraging traditional service platforms and public cloud services, state agencies have published significant geospatial data holdings over the past 12 months. At the states' [Geospatial Portal](#), 102 new streaming REST services are available for public consumption. Access to 198 newly available GIS data sets bring the total to 375 agency spatial data holdings available for public use.

## ACTION 10: MAKE IT EASIER FOR WASHINGTONIANS TO INTERACT WITH STATE GOVERNMENT.

Many agencies are systematically improving their user's on-line experience. The Department of Licensing, for example, allows customers to complete a wide array of licensing-related activities on-line. Planning for interagency efforts is under way in three areas:

- **Mobile Devices:** We are tracking mobile device access to our web sites and this mode of access is growing fast. The OCIO will be working with multiple agencies to identify services that need to quickly adapt to mobile technology.
- **MyAccount:** A multi-agency team, convened by the OCIO, has developed a high-level architecture and implementation plan for a "My Account" portal that makes it easier for small businesses to conduct their work with state government in one place instead of having to work with many agencies. The Governor's proposed 2013-15 budget funds implementation of MyAccount and the OCIO, together with key business-oriented agencies, will work with the Legislature to move this proposal forward.

- The Department of Enterprise Services is in the final stages of contracting for other e-government services.



## ACTION 11: INVENTORY AND PLAN FOR REPLACEMENT OF CRITICAL LEGACY IT SYSTEMS.

Governor Gregoire's proposed 2013-15 budget includes a "Technology Pool" that would make a significant contribution to funding the replacement of several critical legacy systems. Many agencies have decision packages submitted this year or in the past year that are focused on replacing legacy while delivering end user — citizen visible or operational value. These include:

- DSHS: Eligibility Solutions upgrade
- HCA: ProviderOne Phase 2
- Department of Licensing: Replacing Fuel Tax systems and other COBOL replacement
- Department of Retirement Systems: Replacing legacy systems that take in and pre-process employer reports
- Department of Revenue: Legacy upgrade investigation and creation of a web services wrapper for current legacy systems.

## ACTION 12: STUDY HOW TO ATTRACT AND RETAIN HIGHLY SKILLED TECHNOLOGY STAFF AND BUILD UP TECHNOLOGY INTEREST GROUPS THAT FUNCTION AS ROBUST COMMUNITIES IN STATE GOVERNMENT.

The OCIO and the State Human Resources Office have been studying the rate at which we are losing IT workers and found technology workers tend to be somewhat a more stable workforce than other segments of state government workers. In particular, we learned that the percentage of IT workers that leave state service or move around within state government is lower than state government workers generally. With that said, however, it is clear that our IT work force continues to age and sometime in the next decade, we will likely see a large number of state technology workers retire. Also, we have seen several anecdotal examples of strong, driven employees leaving state service to work for the City of Seattle, King County or the private sector. Our best IT employees are being systematically poached, unless they have strong links to state government service because of their long service and connection to the local community.

The OCIO, agency CIO community, and the Office of Human Resources are collaborating to create a plan of action targeted at recruiting new and retaining existing technology employees.

## NEW ACTION ITEMS

The OCIO's State IT Strategy is being updated to reflect two additional areas that require attention:

- **Deliver services to citizens and employees by smartphones:** More than 50 percent of people now carry smartphones, yet many of our web-enabled state services are not convenient to interact with via iOS, Android, Windows Phone and RIM devices. Identifying the right services to publish in a smartphone-friendly format and delivering them should be a top priority for state agencies. We should also invest in software to securely manage smartphone usage by state employees.
- **Invest in Content and Document Management Solutions across the Enterprise:** Most state agencies manage tremendous volumes of documents and are required by law to maintain the documents for decades, and make them accessible to the public. Over the years, individual agencies have implemented document management solutions to address their individual needs. As a result we have a patchwork of systems currently in operation, without a statewide strategy. The OCIO will begin working with agencies to systematically define the problems and opportunities in this area, and then look for an enterprise-wide solution so we can make the most of our investment.

## APPENDIX 2 – TWELVE AGENCIES ARE RESPONSIBLE FOR 75% OF THE STATE’S TECHNOLOGY SPEND

Agency IT Spending FY12	Total FY IT Expenditures	% of Total	Cumulative %
Department of Social and Health Services	132,694,256	14.2%	14.2%
University of Washington	125,113,062	13.4%	27.5%
Consolidated Technology Services	80,258,585	8.6%	36.1%
Community and Technical College System	74,554,939	8.0%	44.0%
Department of Labor and Industries	50,645,000	5.4%	49.4%
Employment Security Department	48,751,096	5.2%	54.6%
State Health Care Authority	40,106,779	4.3%	58.9%
Department of Corrections	40,058,940	4.3%	63.2%
Washington State University	37,842,843	4.0%	67.2%
Department of Transportation	33,952,708	3.6%	70.9%
Department of Enterprise Services	28,075,904	3.0%	73.9%
Department of Licensing	23,245,870	2.5%	76.3%
Department of Health	21,009,782	2.2%	78.6%
Department of Revenue	19,310,000	2.1%	80.6%
Washington State Patrol	16,762,405	1.8%	82.4%
Department of Ecology	16,759,438	1.8%	84.2%
Eastern Washington University	14,122,786	1.5%	85.7%
Central Washington University	10,939,425	1.2%	86.9%
Liquor Control Board	10,663,227	1.1%	88.0%
Department of Retirement Systems	8,694,052	0.9%	89.0%
Department of Fish and Wildlife	8,214,900	0.9%	89.8%
Superintendent of Public Instruction	8,183,288	0.9%	90.7%
Department of Natural Resources	7,361,308	0.8%	91.5%
Office of Financial Management	6,957,472	0.7%	92.2%
Department of Early Learning	6,800,554	0.7%	93.0%
Office of the Attorney General	6,393,160	0.7%	93.6%
Office of the Secretary of State	5,615,073	0.6%	94.2%
The Evergreen State College	5,486,939	0.6%	94.8%
Military Department	4,749,588	0.5%	95.3%
Department of Financial Institutions	4,018,557	0.4%	95.8%
Department of Agriculture	3,828,264	0.4%	96.2%
State Parks and Recreation Commission	3,621,301	0.4%	96.6%
Department of Commerce	3,188,448	0.3%	96.9%
Office of the Insurance Commissioner	2,984,708	0.3%	97.2%
State Investment Board	2,677,516	0.3%	97.5%
State Lottery Commission	2,613,218	0.3%	97.8%

Agency IT Spending FY12	Total FY IT Expenditures	% of Total	Cumulative %
Office of the State Auditor	2,072,700	0.2%	98.0%
Recreation and Conservation Funding Board	1,836,797	0.2%	98.2%
Office of the State Treasurer	1,682,146	0.2%	98.4%
Utilities and Transportation Commission	1,616,044	0.2%	98.6%
#N/A	1,427,148	0.2%	98.7%
Office of Administrative Hearings	1,341,408	0.1%	98.9%
Board of Industrial Insurance Appeals	1,264,329	0.1%	99.0%
Department of Veterans' Affairs	1,181,116	0.1%	99.1%
Washington State Gambling Commission	1,077,338	0.1%	99.2%
Department of Services for the Blind	925,516	0.1%	99.3%
Puget Sound Partnership	773,553	0.1%	99.4%
Washington State Center for Childhood Deafness and Hearing Loss	706,109	0.1%	99.5%
Department of Archaeology and Historic Preservation	480,860	0.1%	99.5%
Washington State Criminal Justice Training Commission	460,586	0.0%	99.6%
Public Disclosure Commission	460,540	0.0%	99.6%
County Road Administration Board	451,432	0.0%	99.7%
State School for the Blind	425,966	0.0%	99.7%
Washington State Historical Society	403,673	0.0%	99.8%
Workforce Training and Education Coordinating Board	294,119	0.0%	99.8%
State Board of Accountancy	183,960	0.0%	99.8%
Transportation Improvement Board	171,804	0.0%	99.8%
Office of Minority and Women's Business Enterprises	168,665	0.0%	99.9%
Board for Volunteer Firefighters and Reserve Officers	145,279	0.0%	99.9%
State Conservation Commission	142,615	0.0%	99.9%
Public Employment Relations Commission	127,542	0.0%	99.9%
Eastern Washington State Historical Society	125,010	0.0%	99.9%
Commission on Judicial Conduct	116,718	0.0%	99.9%
Washington Horse Racing Commission	99,623	0.0%	99.9%
Board of Tax Appeals	97,684	0.0%	99.9%
Human Rights Commission	86,792	0.0%	100.0%
Washington State Arts Commission	82,424	0.0%	100.0%
Environmental and Land Use Hearings Office	75,371	0.0%	100.0%
Caseload Forecast Council	54,386	0.0%	100.0%
Washington Traffic Safety Commission	49,572	0.0%	100.0%
Columbia River Gorge Commission	38,559	0.0%	100.0%
Washington Health Care Facilities Authority	21,366	0.0%	100.0%
Washington Pollution Liability Insurance Program	15,447	0.0%	100.0%
Governor's Office of Indian Affairs	14,673	0.0%	100.0%
Economic and Revenue Forecast Council	13,520	0.0%	100.0%

Agency IT Spending FY12	Total FY IT Expenditures	% of Total	Cumulative %
Washington State Commission on Hispanic Affairs	12,402	0.0%	100.0%
Washington State Commission on Asian Pacific American Affairs	9,354	0.0%	100.0%
Washington State Commission on African-American Affairs	6,015	0.0%	100.0%
Washington Citizens' Commission on Salaries for Elected Officials	5,122	0.0%	100.0%
Law Enforcement Officers' and Fire Fighters' Plan 2 Retirement Board	4,969	0.0%	100.0%
Grand Total	937,005,644	100.0%	100.0%

## APPENDIX 3 – DECISION PACKAGE LIST

The following lists all of the IT-related decision packages submitted by agencies for OCIO review and recommendation. Of the 86 requests in this list, four are supplemental requests for Fiscal Year 2013. For those requests that are included in the Governor's budget, the OCIO supports the requests from an information technology perspective.

- Several of the requests are for subsequent phases of projects already in production. Examples include Health Care Authority's ProviderOne Phase 2, Department of Health's Online Licensing, and Washington State Patrol's Mobile Office Platform.
- In the area of hardware and associated services, the requests include two from Consolidated Technology Services to begin the move into the new State Data Center.
- Several of the requests are placeholders, pending further discussion between the agency and OFM budget staff.

### OCIO RANK (1-4)

1=Critical      2=Important to agency      3=Desirable only      4=Do not fund as requested

OCIO RANK (1-4)	Agency	Title	Agency Request	IT Portion (est.)	OCIO Recommendation
# of Decision Packages	86	NA	NA	\$438,273,282	TOTAL OF ALL IT REQUESTS
	Consolidated Technology Services	OB2 Move and SDC Core Build Out	27,606,000	27,606,000	This is the long-standing project to make the SDC ready to host workloads from State IT. More on this project can be found in the body of this report.
	Consolidated Technology Services	Shared Security Service 2014	7,048,375	7,048,375	This is easily the most important IT decision package and must be funded before all others. Justification can be found in the report.
2	Criminal Justice Training Commission	Broadband Enhancement	88,000	88,000	Every law enforcement officer in Washington state goes through training in this agency and at this location. Internet connectivity is inadequate for the number of officers who are expected to access various internet resources as part of training. This is money well spent and we should fund it.
2	Criminal Justice Training Commission	Broadband Enhancement	48,024	48,024	Support if funded. Supports the CJT training functions inhibited by inadequate internet bandwidth.
2	Commerce	PWB Modernization	2,276,934	365,000	Support if funded. Recommend funding only \$265,000 for PWB Contract Management.
1	Corrections	Electronic Security System Management	1,748,632	980,271	Overall, cyber security in Department of Corrections is a real concern. Support if funded. May be partial. The \$980,271 is for equipment.
2	Corrections	Network Optimization Replacement	715,675	715,675	Support if funded. OCIO recommends that DOC determine if implementing the compression/optimization hardware is significantly less expensive than running fiber or higher capacity lines to the end sites. OCIO wants DOC to obtain informal bids from several communication vendors for this and compare the costs.
1	Corrections	Radio Infrastructure	4,722,135	4,722,135	Support if funded. Upgrades, standardizes, and provides interoperability of



OCIO RANK (1-4)	Agency	Title	Agency Request	IT Portion (est.)	OCIO Recommendation
		Upgrades			DOC's radio system.
1	Corrections	Software Maintenance	139,134	139,134	Support if funded. Software maintenance increases. It is important that we only allow maintenance increases if our utilization of that software has increased along some metric — otherwise software vendors have to be cognizant of the fact that state budgets are strapped and they cannot ramp up maintenance pricing on state governments in these tough times.
2	Corrections	Telephone System Replacement	2,114,080	2,114,080	Support if funded. Replaces telephone equipment that is no longer manufactured or supported.
1	Early Learning	Continue EBT System Implementation	6,728,761	6,728,761	Support if funded. Project pays for itself in one year. Should significantly reduce errors and fraud. The question of where eligibility belongs (DSHS of DEL) should be resolved this year. DEL's implementation strategy will adhere to the OCIO recommendation to roll out using pilots rather than a big bang release. OCIO will do a review prior to final budget decision
1	Early Learning	FTE Authority	Federal Grants	1,000,000	Support if funded, provided it is cost neutral. FTEs to support DEL's federally funded programs. Overall Department of Early Learning has too high a percentage of contractors in its IT staff already.
1	Early Learning	Maintain Race to the Top – Early Learning Challenge			
2	Enterprise Services	P20W Data Warehouse Support and Maintenance	1,286,342	432,400	Support if funded.
2	Enterprise Services	Technology Business Management Tool	1,250,000	1,250,000	Support if funded. The request pays for a yearly subscription fee of \$625,000. The cost of this service will be recovered through rate charges to agencies. Agencies needing addition consulting services will pay the vendor directly.
2	Enterprise Services	Transfer Geospatial Portal to DES	211,000	211,000	Support if funded, with the understanding that the GIS oversight, strategic direction, governance and business coordination will reside in OCIO.
1	Enterprise Services	Transform Financial Process (Time, Leave, Attendance)	15,000,000	15,000,000	This is a placeholder not a decision package. This project will acquire and implement an enterprise timekeeping system that can be shared by agencies statewide. Phase 1 is the initiation and planning phase, including the solicitation which concludes June 2013. The agency request assumption is based upon two options: SaaS and on-premise. A more precise budget for will be determined on the completed solicitation.
2	Fish & Wildlife	Technology Cost Increases	211,500	211,500	Support if funded, with condition. This is related to DFW increased costs for CTS services. DFW should match need against any CTS rate decreases that may be forthcoming.

OCIO RANK (1-4)	Agency	Title	Agency Request	IT Portion (est.)	OCIO Recommendation
2	Health	Online Licensing	2,577,000	2,577,000	Support if funded. Implementation of the last phase of an existing project to automate professional license applications and renewals with online payments. All health professions and facilities will be implemented; 10K individuals will be using the systems
1	Health	Prescription Monitoring Program	1,023,000	1,023,000	Support if funded. Funding is to continue operations of a system that has a direct impact on health and safety of citizens.
2	Labor & Industries	Electronic Benefit Payments	2,429,000	2,429,000	Support if funded. Replaces paper checks with prepaid debit cards and electronic bank deposits for payments to clients/citizens. If this project is funded, we will have payments from 3 agencies using EBTs – DSHS, DEL & LNI. It is recommended that the three agencies perform a quick analysis of the user overlap of the customers of these 3 agencies and also analyze how the user experience will be for the people who have two or more of these EBT cards.
2	Labor & Industries	Foundation for E-Government (My L&I)	6,464,850	6,464,850	Support if funded. Provide single point of contact for companies and citizens for the many programs at LNI. There is a considerable amount of research and preparation that has gone into this proposal and that document can be obtained
3	Labor & Industries	Improving Wage Payment Act Collections	367,000	367,000	Support if funded. Improves business processes, increases capture of wages for citizens.
3	Labor & Industries	Knowledge Management	2,029,000	2,029,000	Support if funded. Increases efficiency and accuracy of agency decisions regarding claims. Essentially, this effort is intended to enhance the knowledge/decision making software that LNI professionals use to adjudicate claims. It is important that this seed capital be used not merely as project funding but to create the nucleus of a team that takes pride in maintaining and enhancing this service on a cadence.
3	Labor & Industries	Prevailing Wage Information Technology	3,040,000	3,040,000	Support if funded. Automates or improves 6 business processes in the Prevailing Wage Program.
1	Licensing	Prorate Fuel Tax System	7,414,000	7,414,000	Support if funded. The project has received extensive review by the OCIO and has received approval pending renewal of the \$7.4 million. DOL must do a competitive bid on the services and are looking to expand functionality. Has revenue enhancement benefit. OCIO reviewed the project proposal and made the following recommendations:
2	Licensing	Technology Modernization	1,000,000	1,000,000	Agency is currently updating its DP. Fund only with revised approval of the OCIO based on update.
2	Natural Resources	Aggregate Resource Mapping	394,900	4,300	Support if funded. The OCIO requests the program coordinate with the OCIO GIS manager on GIS components.
2	Natural Resources	Aquatic Lands Business Management	4,762,500	1,000,000	Support if Funded. The OCIO strongly suggests that this solution is a great solution for cloud platforms because of it massive, increasing and varying data storage needs as well as the need to make this data available to partners. Please work closely with the Deputy CIO of Washington State as

OCIO RANK (1-4)	Agency	Title	Agency Request	IT Portion (est.)	OCIO Recommendation
					technology decisions are made. Any GIS component of this project should also coordinate with the OCIO GIS manager. There should be a final approval review once the exact requirements and architecture and technology plans are better understood. These comments also apply to the next DNR package in the list.
2	Natural Resources	Aquatic Lands Environmental Management	15,662,000		Support if Funded. The request is broken down into eleven aquatic programs supporting the Puget Sound Action Agenda. Three of the programs have an IT component: Aquatic Restoration — \$252,000 for IT support for the program and one-time workstation set up; Ocean Acidification – The IT component is hard to determine. There is \$689,500 allocated for 3 FTES project NR Scientists and one-time equipment and workstation set up.; and the Marine Spatial Planning Fund a transfer of funds from the ALEA account in the amount of \$4,200,000. The IT components have not yet been identified. It is assumed that there will be a significant GIS portion.
2	Retirement Systems	Upgrade Employer Reporting System	3,074,000	3,074,000	Strongly Support if funded. The software systems of DRS are very old and need to be upgraded. DRS has embraced the OCIO's suggestion that such upgrades always be in stages, where each stage is funded and delivers value to end customers in the same biennium. This is the first such project and is well researched
1	Revenue	Agency Security Program	994,000	994,000	Very strongly support. DOR needs to invest in Cyber security.
2	Revenue	Bandwidth/Data Circuits	73,000	73,000	Support if funded.
1	Revenue	Business Continuity	470,000	470,000	Support if funded. We however request that this money not be spent without close consultations with OCIO and CTS. There is an opportunity to invest in better
2	Revenue	Legacy System Replacement	13,122,000	13,122,000	Support if funded. This is an important upgrade for the state and there is more discussion on this proposal in the body of the document.
2	Revenue	Software & Maintenance Contracts	638,000	638,000	Support if funded based on a 1% to 2% maximum a maximum of \$130,000.
2	Social & Health Services	Ad Hoc Reports FamLink/Modis Interface	410,000	410,000	Support if funded.
3	Social & Health Services	Client Receivable System	1,943,000	1,943,000	Neutral.
1	Social & Health Services	Decommissioning SSPS	526,000	526,000	Support if funded. See M2-PV above.
3	Social & Health Services	Document Management System	3,360,000	3,360,000	Neutral. OCIO needs to review this request in light of requests from other agencies for a Document Management System.
1	Social & Health Services	Electronic Medical Record ICD-10	8,500,000	8,500,000	Support if funded. OCIO needs to coordinate reviews with other agencies that have the same requirement, such as HCA and DOH. World Health Organization and federal government requirement to convert implement a

OCIO RANK (1-4)	Agency	Title	Agency Request	IT Portion (est.)	OCIO Recommendation
					client centric electronic health record system that is ICD-10 compliant.
2	Social & Health Services	FamLink Modifications	2,064,000	2,064,000	Support if funded.
3	Social & Health Services	Fraud Detection Management System	Supplemental / Placeholder	Supplemental / Placeholder	Neutral.
2	Social & Health Services	Health Benefit Exchange (ACA)	6,107,000	6,107,000	Support if funded.
2	Social & Health Services	PC and Server Replacement — JRA	396,000	396,000	Support if funded. The OCIO is recommending that DSHS assess consolidation of their multiple help desks.
2	Social & Health Services	PC Replacement — Children's	1,950,000	1,950,000	Support if funded. The OCIO is recommending that DSHS assess consolidation of their multiple help desks.
2	Social & Health Services	PC Replacement — Mental Health	231,000	231,000	Support if funded. The OCIO is recommending that DSHS assess consolidation of their multiple help desks.
2	Social & Health Services	PC Replacement — SCC	143,000	143,000	Support if funded. The OCIO is recommending that DSHS assess consolidation of their multiple help desks.
3	Social & Health Services	Support Wi-Fi in Offices	925,000	925,000	Partial fund. \$346,600 needed if PL-PX is funded.
2	Social & Health Services	Sustaining Unisys Operations	1,035,000	1,035,000	Support if funded. Suggest DSHS also be provided funds to investigate complete migration off the Unisys platform. This DP does not recognize the ongoing costs for continuing to run SSPS on the Unisys mainframe at CTS. See M2-PW which is specific to CA only; does not include decommissioning the Admin, ESA, and ISSD portions of SSPS.
3	Social & Health Services	TANF-PRISM	712,000	712,000	Neutral. Request to continue a pilot test through Fiscal Year 14 before making decision to go into production in Fiscal Year 15. This is a predictive software tool that identifies risk factors affecting clients' employability.
2	Social & Health Services	Upgrade Network Capacity	780,000	780,000	Support if funded. See PL-PY.
1	Transportation	COP for Timekeeping System	2,060,000	2,060,000	Support if funded. The request will extend the debt service into the 2013-15 Biennium.
2	Transportation	IT Cost Increases	1,938,000	1,938,000	Support if funded. The OCIO is recommending that all software maintenance increases be limited going forward.
1	Employment Security.	Next Generation Tax System	12,386,000	12,386,000	Support if funded. This is the carry forward funding to complete the NGTS project.
2	Employment Security	Unemployment Insurance System Efficiency	13,140,000	13,140,000	Support if funded.
2	Health Care Authority	ACA HBE Shared Costs	Placeholder	Placeholder	Neutral.
2	Health Care Authority	Health Care Reform Implementation	1,163,000	1,163,000	Neutral. Placeholder.

OCIO RANK (1-4)	Agency	Title	Agency Request	IT Portion (est.)	OCIO Recommendation
2	Health Care Authority	Health Information Technology	172,240,000	172,240,000	Support if funded. These are grant pass through funds. Although this is a continuation of an existing grant program, the OCIO does not know how HCA estimated this number.
1	Health Care Authority	Implement ICD-10 Compliant Codes – Supplemental	10,873,000	10,873,000	Support if funded. OCIO needs to coordinate reviews with other agencies that have the same requirement, such as DSHS and DOH.
3	Health Care Authority	Medicaid Information Technology Architecture (MITA) – Supplemental	505,000	505,000	Neutral.
1	Health Care Authority	ProviderOne Maintenance & Operations	17,732,477	17,732,477	Support if funded. OCIO needs to review HCA's plans for how HCA intends to competitively re-procure this service in the future and not be bound to this single vendor.
1	Health Care Authority	ProviderOne Phase 2 Project	25,802,300	25,802,300	Support if funded. This is the total request and includes the 10% state match of federal funds to complete implementation of Medicaid payments to W2 and 1099 based social service facilities and workers.
1	Lottery Commission	Gaming Vendor Contract	596,540	300,000	Support if funded. Contract expires in June 2016. Must go through a competitive procurement process. Lottery cannot operate without a valid contract. Budget covers development of an RFP
2	Lottery Commission	Integrated Financial Package	2,253,450	2,253,450	Support if funded. Project greatly reduces risk by replacing an antiquated system which requires significant manipulation and review. New system will give lottery reliable information to make critical business decisions and maximize revenue. Lottery is leaning towards Software as a Service (SaaS) solution which will demonstrate to the state the value of this approach and should be a good fit for LOT. They will be coordinating with the DES ERP project.
2	Lottery Commission	Integrated Financial Package – Supplemental	986,010	986,010	Support This is a supplemental request which would allow Lottery to start the preliminary planning to the main project. This would include hiring consultants to assist with the RFP development and also the hiring of a contract project manager. It is tied to a project request for the 2013-15 Biennium.
1	Military Dept.	Next Generation 911 Capability (phone equipment replacement is 22 counties)	9,000,000	9,000,000	Neutral. The OCIO will require the State E911 Coordination Office to provide a copy of the feasibility study for the lifeline phone replacement strategy, once completed, for additional review and comment by the OCIO.
2	Office of Administrative Hearings	IT Infrastructure	164,000	164,000	Support if funded. This will fund the ongoing maintenance and support for OAH's new appeals case management system.
2	Office of Administrative Hearings	IT Infrastructure	234,000	234,000	Support if funded. May be lower. OAH is obtaining quotes from CTS and Amazon to host this hardware and software.

OCIO RANK (1-4)	Agency	Title	Agency Request	IT Portion (est.)	OCIO Recommendation
2	Office of Financial Management	K-20 Education Network	1,354,489	1,354,489	Support if funded. Provides additional funding for the K-20 network at current service levels for broadband transport, maintenance of data and video equipment, equipment depreciation, and costs for network operations.
2	Office of the Attorney General	Law Office Operation Costs	745,000	745,000	Support if funded, but the final amount may be less. The OCIO is asking ATG to negotiate the software maintenance price increases with the vendors.
2	Office of the Attorney General	Lease of Personal Computers	565,000	565,000	Support if funded, but the OCIO suggests doing so at 75%.
2	Office of the Attorney General	Migration to CTS Shared Services	884,000	884,000	Support if funded. The \$100,000 requested for the migration services. ATG may wish to submit a supplemental DP for consideration in the future, but it should take into account offsetting costs.
2	Superintendent of Public Instruction	Data Driven Decisions	4,512,000	4,512,000	Support if funded. This is part of the educational data program and focuses on enabling teachers and school staff to effectively use data. SPI has agreed to an implementation strategy that would prove that the system will work prior to implementing system wide.
1	Superintendent of Public Instruction	K-12 Statewide Longitudinal Data System	1,174,000	1,174,000	Support if funded. This is result of a federal grant new critical work for SPI. OCIO requested copies of sample reports which demonstrate the value of the system.
4	Recreation and Conservation Funding Board	Habitat Work Schedule	1,300,000	1,300,000	Do not fund. Federal funding is in place, but RCFB is concerned that federal funding may be lost. OCIO supports funding if federal funds lost and RCFB negotiates reduced costs.
2	State Board for Community and Technical Colleges	Implement Statewide Education Resources	6,000,000	0	This is not tracked by OCIO. This part of the program to reduce textbook costs through the development of open and downloadable text books. There are no IT investments. The colleges have the IT capability they need. This is a capability of high importance to the colleges and the Legislature.
2	State Conservation Commission	Conservation Practice Data Management	138,000	138,000	Neutral. Important to the agency. SCC has been supporting this system within existing funding. OCIO recommends that natural resource agencies collaborate on consolidating multiple grant systems.
2	State Investment Board	Book of Record Conversion	388,735	388,735	Support if funded.
2	Evergreen State College	Basic IT and Business Improvements	723,196	723,196	Support if funded.
2	Evergreen State College	Student Recruitment Retention & Success	3,418,019	368,019	Support if funded.
1	Veterans' Affairs	Mitigate IT Risks	238,601	238,601	Support if funded. Replaces Cisco switches, renewal of Citrix licenses, 30 license upgrades for the Enterprise Healthcare System, and training.
2	Washington State Patrol	Criminal History Microfilm Conversion	536,400	536,000	Support if funded. Based on results of feasibility study in 2011-13 Biennium that resulted in new system. Request is to fund converting remaining

OCIO RANK (1-4)	Agency	Title	Agency Request	IT Portion (est.)	OCIO Recommendation
					microfilm-based records to the new system.
1	Washington State Patrol	Criminal History System Upgrade	3,480,300	3,480,300	Support if funded. Replace existing system used by WSP, courts, DOL, DOC, and local jurisdictions with one that works with current operating systems and Web browsers.
1	Washington State Patrol	Mobile Office Platform Continuation	4,674,100	4,674,100	Support if funded. This is a continuation of a program that began in the 2011-13 Biennium to install PCs, electronic ticketing, query tools, and digital video systems in every trooper's patrol vehicle. The OCIO has requested that WSP track and report benefits of the system.
2	Washington State Patrol	Sergeant Mobile Laptop Computers	898,100	898,100	Support if funded. But may be a lower priority than M2-AE. This request expands the usage of the Mobile Office Platform tool to the Sergeants' patrol vehicles.



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